IEEE COMPSAC 2025

IEEE International Conference on Computers, Software, & Applications

Toronto, Canada | July 8-11, 2025

IEEE Advancing Technology for Humanity

IEEE COMPUTER SOCIETY

Conference Program

COMPSAC 2025
PROGRAM-AT-A-GLANCE

July 8th

Time	A2	B2	C2	D2	E2	344	347
9am-10:30am	ADMNET	AMIA-VR	SIoT	EATA	DADA	DBDM	CDS1
10:30am-11am	Coffee Break						
11am-12:30pm	Keynote: The Impact of IEEE Computer Society in Advancing Technologies, including LLM/AI and Software Engineering Hironori Washizaki						
12:30pm-1:30pm	Lunch Break						
1:30pm-3:00pm	Keynote: From Turing Test to Turing Tack: AI's Transformative Tensions in Software Engineering Neel Sundaresan						
3:00pm-3:30pm	Coffee Break						
3:30pm-5pm	CDS / SESS	DDS-BDAF	EATA	ICT4SmartGrid MVDA	DADA	DSML J2C	SIoT

July 9th

Time	A2	B2	C2	D2	E2	344	347
9am-10:30am	Sorel Reisman Symposium	SEPT	CELT	DSAT	CAP	EATA	SCH
10:30am-11am	Coffee Break						
11am-12:30pm	Keynote: Random Thoughts After 60 Years in the Trenches Yale Patt						
12:30pm-1:30pm	Lunch Break						
1:30pm - 3:00pm	Panel: Harnessing the Power of Intelligent Systems with Public Safety Technologies to Shape the Future						
3:00pm-3:30pm	Coffee Break						
3:30pm- 5:00pm	Sorel Reisman Symposium	SEPT	DSAT	SEPT	ASYS	CELT	SCH

July 10th

Time	A2	B2	C2	D2	E2	344	347
9am-10:30am	DSAT	DSAT	DSAT	SETA	AVKMT	ITiP	ITiP
10:30am-11am	Coffee Break						
11am-12:30pm	Keynote: Can You Predict the Future? Dejan Milojicic						
12:30pm-1:30pm	Lunch Break & COMPSAC 2026 Planning Meeting - all future participants welcome!						
1:30pm-3:00pm	SEPT	DSAT	DSAT	SEPT	ASYS	HCSC	SCH
3:00pm-3:30pm	Coffee Break						
3:30pm-5pm	DSAT	SETA	Panel: Technological Drift of Artificial Intelligence	SEPT	CAP MOWU HCSC	ITiP	DDS-BDAF

July 11th

Time	A2	B2	C2	D2	E2	344	347
9am-10:30am	IEEE Mentorium 2025: Building Blocks for Researchers	BlockDT1	DIGI-HEALTH1	SAPSE, SCA, & eHealth-IoT	MediComp	AIML	STPSA
10:30am-11am	Coffee Break						
11am-12:30pm	AIML	ITA	DIGI-HEALTH2	ESAS	MediComp	NETSAP	STPSA
12:30pm-1:30pm	Lunch Break						
1:30pm-3:00pm	AIML	FA1	DIGI-HEALTH3	STA	SRS	SETA	NCIW
3:00pm-3:30pm	Coffee Break						
3:30pm-5pm	SETA	SETA	SETA	BlockDT 2	FA2	OER & QUORS	NCIW

SEE YOU NEXT YEAR IN SPAIN!

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COMPSAC is co-sponsored by the **IEEE Computer Society**. The IEEE Computer Society is the premier source for information, inspiration, and collaboration in computer science and engineering. Connecting members worldwide, the Computer Society empowers the people who advance technology by delivering tools for individuals at all stages of their professional careers. Our trusted resources include international conferences, peer-reviewed publications, a robust digital library, globally recognized standards, and continuous learning opportunities.

The **IEEE Future Directions Committee (FDC)** seeks to identify, develop, and promote projects that are value-added for IEEE and its members, bringing together multiple Societies and Councils to provide broad and deep perspectives on a particular topic, application, or technology. These projects range from short-term activities to reach a specific goal to Future Directions Initiatives seeking longer-term cross-collaborative engagement among industry, academia, and government striving to develop and deploy various future technologies.

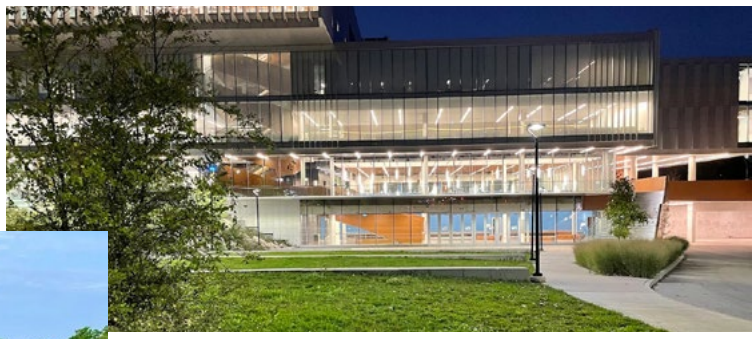
COMPSAC 2025 will be held at **York University**. York is a top international teaching and research university and a driving force for positive change.

Located in Toronto, Canada, York is empowered by a welcoming and diverse community with a uniquely global perspective, we are preparing our students for their long-term career and personal success. Together we are making things right for our communities, our planet, and our future.

The IPSJ – Information Processing Society of Japan is a COMPSAC 2025 community partner. IPSJ is a Japanese learned society for computing. Founded in 1960, it is headquartered in Tokyo, Japan. IPSJ publishes a magazine and several professional journals, and sponsors conferences and workshops. It has nearly 20,000 members. IPSJ is a full member of the International Federation for Information Processing.

COMPSAC 2025 Welcome Reception

Monday July 7, 6:30 – 8:30 pm
Second Student Center – York University



COMPSAC 2025 Banquet

Wednesday July 9, 6:30 – 9:30 pm
The Manor
16750 Weston Rd, King, ON L7B 0C7, Canada

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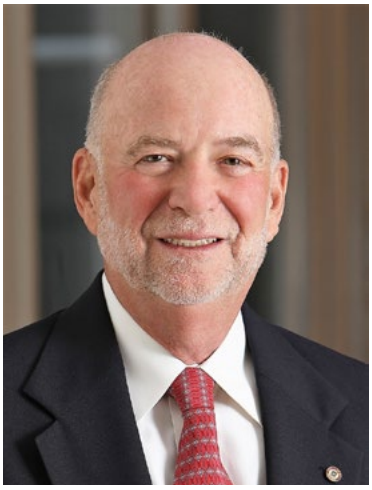
COMPSAC 2025 – A Milestone in Toronto
Welcome and Farewell
Sorel Reisman, Standing Committee Chair | IEEE Fellow



What goes around comes around—a familiar saying, but one that holds true for me. I began my academic and professional journey in Toronto – actually, my whole life started there. But after nearly 50 years in the U.S., I find it fitting to conclude one of my most significant professional roles—Standing Committee Chair of COMPSAC—back where it all began. While my alma mater is the University of Toronto (U of T), this year's COMPSAC is hosted at York University, Canada's third-largest university, founded the same year I entered high school! However, it was only 4 years later that I met my wife at York U's Glendon Campus, although she too completed her PhD at U of T.

This conference would not be possible without the incredible efforts of General Chair Kostas Kontogiannis, who works tirelessly, and Local Arrangements Chair Marios Fokaefs, who graciously lets Kostas work too hard! We owe them both immense gratitude for ensuring that we feel welcome at York University.

The Evolution of This Year's Theme

I have a confession: The theme of COMPSAC 2025 came to life with the help of my friendly AI companions—ChatGPT and Claude. I provided keywords, and they generated text that was creative, but sometimes a bit too imaginative, embellishing our history with details like hosting four Nobel Prize winners and helping to invent quantum computing! Naturally, I needed to bring it back to reality, a task I accomplished with the support of our organizing committee. Their valuable input ensured the theme remained grounded in facts; their names, along with their roles, are available on our website, www.compsac.org. If you are interested in past COMPSACs, you can find previous programs under the Archives section.

A Year of Remarkable Engagement

This year's theme attracted 500+ paper submissions from across the globe, despite uncertainties about international travel. Maintaining our usual high standards, we ensured each paper underwent review by at least three experts, resulting in a 23% acceptance rate for conference papers. To add some perspective, as of one month before the conference, I have received 1,450 personal emails and another 2,750 emails related to the over 1,500 reviews—a staggering amount!

Distinguished Keynote Speakers

COMPSAC continues its nearly 50-year legacy with exceptional keynote speakers, plenary panels, and top-tier symposia and workshops. This year's keynote lineup features individuals with deep-rooted connections to COMPSAC:

Hironori Washizaki, 2025 IEEE Computer Society President and Co-Chair of the Symposium on Smart IoT Systems & Applications, who was our Local Arrangements Chair for COMPSAC 2018 in Tokyo.

Dejan Milojicic, VP at Hewlett-Packard Labs, past IEEE Computer Society President, a leading figure in future technology predictions for IEEE and the Computer Society, and a good personal friend.

Yale Patt, Virginia H. Cockrell Centennial Chair in Engineering, and Distinguished Teaching Professor at the University of Texas at Austin, returns to us after 10 years, when he was our keynote speaker in Atlanta, when I served in my first year as Standing Committee Chair

Neel Sundaresan, General Manager of Automation and AI at IBM, where, incidentally, I kick-started my professional career after graduate school, and with whom I moved to the US.

What a great group of keynoters!

Yet More

But wait, there is still more! This year, we have a new Student Research Symposium organized by students from across (and down) the globe, hosting student-submitted papers coordinated in conjunction with our new IEEE Mentorium 2025. The Mentorium, mentored by Professor Dave Towey, COMPSAC Standing Committee Co-Vice Chair, "focuses on the vital development of early-career researchers by fostering mentorship, networking, and professional growth."

Plenary Panels and Special Recognitions

Beyond our keynotes, this year's plenary panel, organized by Kathy Grise, focuses on "Harnessing the Power of Intelligent Systems with Public Safety Technologies to Shape the Future." Kathy has been a dedicated contributor to COMPSAC as a symposium leader, panel organizer, and financial supporter—all while leading IEEE's Future Directions initiatives.

We are also celebrating the 15th anniversary of IEEE Eta Kappa Nu (IEEE-HKN)'s merger with IEEE, led by our friend Nancy Ostin, IEEE-HKN's staff Director. IEEE-HKN is the international honor society for electrical and computer engineering, computer science, and IEEE-related fields, and we will commemorate this milestone at our conference banquet.

A Legacy of Collaboration and Transition

COMPSAC has been deeply supported by the Information Processing Society of Japan (IPSJ) since 2012. Our Japanese colleagues have played a crucial role in the conference's success, including hosting multiple conferences in Japan. Between IPSJ and COMPSAC, we have contributed two recent IEEE Computer Society Presidents, including our lead keynote speaker, Hiro Washizaki. I am honored this year to have been selected by the IPSJ Board as an Honorary IPSJ Member, a distinction shared with fewer than 45 other individuals, including Carl Chang, my predecessor as Standing Committee Chair.

A Farewell and a New Chapter

I would be remiss if I were to miss the opportunity to self-congratulate myself on 10 years as Standing Committee Chair of COMPSAC. As this is my last COMPSAC in that position, I must say that I have done an exemplary job selecting the people who have made the conference a great intellectual and financial success. I have mostly been able to sit back and take the accolades while my good friend, Sheikh Iqbal Ahamed, has, over the years, taken on the day-to-day management of the conference and the exemplary volunteers who did all the work during those 10 years. Iqbal will take over as Standing Committee Chair, and I will retire into an advisory role, which I have mainly done over the years.

In departing this role, I want to acknowledge the hard work of the members of our Consulting Committee, all of whom have become close friends over the years. I will miss collaborating so closely with them. But they, being our family and close community, will continue to be Iqbal's main support as the conference continues into its second 50 years. Another family member who is not a volunteer but who I hope will continue to be our liaison with the Computer Society is Carmen Saliba. Thank you, Carmen, for being our defensive line between the Evil Empire (IEEE) and all of us volunteers.

Finally, I want to extol the virtues of two special people who work extremely hard but receive minimal recognition for their efforts: Laurel Ming, our archivist and webmaster, and Simanta Mitra, our Treasurer – they both know all our buried secrets and where all our funds are buried. They both work extremely hard to keep the information and money flowing, ensuring the continuation of COMPSAC as the signature conference of the IEEE Computer Society.

Looking Ahead

As COMPSAC moves forward, I am confident that under Iqbal's leadership, its tradition of excellence will continue with our growing community of volunteers, groundbreaking discussions, and a commitment to advancing computing research and applications worldwide.

Enjoy the conference, thank you all for being part of this journey, and start planning for COMPSAC 2026 in Madrid, Spain – July 7 - 10.

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IEEE COMPSAC 2025
Message from the Program Chairs in Chief

Shamem Ahmed
Western Washington University, USA

Miriam Capretz
Western University, Canada

Stelvio Cimato
University of Milan, Italy

Hiroyki Ohsaki
Kwansei Gakuin University, Japan

Welcome to COMPSAC 2025, the 49th IEEE Computer Society International Conference on Computers, Software & Applications. Our theme for this year is "Harnessing the Power of Intelligent Systems: Shaping the Future." COMPSAC 2025 focuses on research and development of computing technologies for their eventual integration into all aspects of society. The conference brings together researchers, developers, practitioners, and policymakers from all around the world to discuss the latest advances in their fields and their challenges.
Rapid advancements in artificial intelligence, machine learning, and data analytics are transforming the computing field at an unprecedented pace. Intelligent systems are leading the way in this exciting transformation, revolutionizing industries and societies. The COMPSAC 2025 conference will serve as a global forum to explore the latest breakthroughs in intelligent systems and their applications across various domains. To achieve this goal, we have organized 13 symposia in COMPSAC 2025, each focused on a specific technical segment, including autonomous systems, computer architectures and platforms, computing education and learning technologies, data sciences, analytics and technologies, emerging advances in technologies and applications, human computing and social computing, IT in practice, mobile, wearable and ubiquitous computing, networks, communications, internet and web technologies, smart and connected health, security, privacy and trust in computing, software engineering technologies and applications, and smart IOT systems and applications. In addition, we are organizing keynote addresses, fast abstract sessions, workshops, and a student research symposium, all of which foster discourse and deepen our understanding of the challenges we face, contributing to the advancement of computing systems.

We received 295 submissions this year. For the symposia, each submission underwent double-blind review by at least three members of the Technical Program Committee. Symposia Chairs then recommended to the entire Program Committee which papers to accept as regular or short papers. At the Program Committee meeting in April, we accepted 81 full papers (27.45%) and 83 short papers. Out of the 295 submissions to the symposia, 43 papers received favorable reviews but were not accepted in the main conference. These papers were transferred to the COMPSAC workshops. Additionally, seven papers were recommended for publication as fast abstracts or student research symposium papers.

We would like to express our sincere gratitude to the authors of each submission, to the dedicated Organizing Committee members, and the Program Committee members who volunteered their time, expertise, and effort to peer-review each paper. Special thanks are due to those members who attended the virtual Program Committee meeting. We also want to extend our gratitude to the Workshop Chairs—AKM Jahangir Alam Majumder, Munirul Haque, Tomoki Yoshihisa, and Alfredo Cuzzocrea—for their outstanding efforts in coordinating 30 workshops this year. Additionally, we appreciate the support and encouragement from the General Chair, Kostas Kontogiannis. Lastly, we are grateful for the leadership, guidance, and tireless support provided by our Standing Committee Chair, Sorel Reisman, and our Standing Committee Vice Chairs, Sheikh Iqbal Ahamed, Mohammad Zulkernine, and Dave Towey. Decades of their effort have left a lasting impact on both the COMPSAC conference and us as members of the COMPSAC community.

IEEE COMPSAC 2025
Co-Located Worshops Summary

Alfredo Cuzzocrea
University of Calabria, Italy; University of Paris City, France

AKM Jahangir Alam Mazumder
University of South Carolina Upstate, USA

Munirul Haque
Butler University, USA

Tomoki Yoshihisa
Shisa University, Japan

Abstract—IEEE COMPSAC Workshops series is an established research event that complements the main focus of the IEEE COMPSAC conference, by focusing on specific topics that gain momentum in the research community. This paper introduces the overview of the IEEE COMPSAC 2025 co-located workshops, and discusses some open research issues that have emerged from the different workshops' topics and selected contributions.

Keywords—Artificial Intelligence, Big Data, Machine Learning, Data Science, Deep Learning, Natural Language Processing

I. INTRODUCTION

This paper introduces the overview of the IEEE COMPSAC 2025 co-located workshops, and discusses some open research issues that have emerged from the different workshops' topics and selected contributions.

Fig. 1: Word Cloud of Topics of the IEEE COMPSAC 2025 Workshops

The IEEE COMPSAC Workshops series is an established research event that complements the breath of the main IEEE COMPSAC conference, by focusing on specific topics that, time by time, gain momentum in the research community. This year, IEEE COMPSAC finally accepted the proposals coming from 30 different workshops, which move the attention on a wide family of topics, ranging from Artificial Intelligence (AI) to big data, from Machine Learning to Data Science, from medical computing to sustainability, from distributed technologies to security, from smart computing to software, from trust & privacy to cultural heritage, and so forth. Figure 1 shows the word cloud built on topics of the IEEE COMPSAC 2025 workshops. Topics of IEEE COMPSAC 2025 workshops are, nowadays, of high interest for the research community. For instance, the usage of Large Language Models (LLM) in the intelligent smart city applications (e.g., [1]) plays a leading role, since LLM ingested into smart city tools has the power to inlock true value from this kind of data, in order for enabling governors and professionals to deliver timely and quality smart city services largely.

Conversely, big data also plays a pivotal role, as both big data management and analytics (e.g., [2]) have become prominent topics in current research, driven by their relevance across a wide range of critical applications (e.g., [3]). The key challenges in this domain include: (i) the efficient and effective handling of large-scale data repositories during core data management operations such as representation, partitioning, indexing, and querying; and (ii) the extraction of meaningful and actionable insights from these repositories to support informed decision-making.

Orthogonal to the latter axioms, several emerging contexts are now of strident relevance, and deserve truly attention. Among the latter, in the following we pinpoint the most significant ones. Advanced Deep Learning Methods (e.g., [4]), first, encompass cutting-edge architectures and training techniques aimed at enhancing model performance, scalability, and generalization across complex tasks such as image analysis, natural

language processing, and time-series prediction. These methods face several critical research challenges that limit their widespread and responsible adoption. These include the need for large, high-quality datasets, which are often difficult to obtain; the complexity and lack of interpretability of deep models, which hinders trust and transparency; and the high computational and energy demands associated with training and deployment, raising sustainability concerns. Additionally, ensuring model generalization, especially under real-world data shifts, remains difficult, while deploying large models on resource-constrained devices poses scalability issues. Furthermore, robustness against adversarial attacks and security threats is an ongoing concern, as are ethical issues related to bias, fairness, and responsible AI use.

Advanced Natural Language Processing (NLP) Paradigms (e.g., [5]), second, refer to state-of-the-art approaches and architectures—such as Transformer-based models (e.g., BERT, GPT, T5)—that enable machines to understand, generate, and interact with human language at a deeper semantic and contextual level. These paradigms leverage large-scale pretraining, transfer learning, and attention mechanisms to achieve superior performance across a wide range of tasks, including machine translation, sentiment analysis, question answering, and dialogue systems. Despite their impressive capabilities, advanced NLP paradigms face several ongoing research challenges. One major issue is the need for massive computational resources and large-scale datasets for training, which raises concerns about accessibility, energy efficiency, and environmental impact. These models also struggle with interpretability and transparency, making it difficult to understand how decisions are made—an especially critical concern in high-stakes applications. Moreover, NLP systems often inherit and amplify biases present in training data, leading to unfair or ethically problematic outcomes. Ensuring robustness and reliability in real-world scenarios, especially when dealing with noisy or out-of-domain inputs, remains a difficult task. Additionally, challenges persist in multilinguality, context understanding, reasoning, and maintaining coherence in long-form generation, highlighting the need for more adaptable and human-aligned language models.

Given these examples of emerging topics in the wide area of computer software and applications, it is natural to envisage the papers proposed in the IEEE COMPSAC 2025 Workshops as modern, timely and authoritative research contributions to be considered as milestone for future research directions.

II. WORKSHOPS' DETAILS

The following workshops have been selected by IEEE COMPSAC 2025:

1. ADMNET 2025 – 13th IEEE International Workshop on Architecture, Design, Deployment and Management of Networks and Applications
2. AIMA-VR 2025 – IEEE International Workshop on Advanced Medical Image Analysis Using Virtual Reality
3. AIML 2025 – 8th IEEE International Workshop on Advances in Artificial Intelligence and Machine Learning: Futuristic AI and ML Models & Intelligent Systems
4. AVKMT 2025 – 3rd IEEE International Workshop on Advanced Visual Knowledge Management Tools
5. BlockDLT 2025 – IEEE International Workshop on Blockchain and Distributed Ledger Technologies
6. CDS 2025 – 13th IEEE International Workshop on Consumer Devices, Systems and Services
7. DADA 2025 – 7th IEEE International Workshop on Deep Analysis of Data-Driven Applications
8. DBDM 2025 – 10th IEEE International Workshop on Distributed Big Data Management
9. DDS-BDAF 2025 – 5th IEEE International Workshop on Dynamic Data Science and Big Data Analytics in Finance
10. DIGI-HEALTH 2025 – 3rd IEEE International Workshop on Digital and Public Health
11. DSML 2025 – 3rd IEEE International Workshop on Data Science and Machine Learning for Cybersecurity, IoT and Digital Forensics
12. DT4Meta 2025 – 3rd IEEE International Workshop on Digital Twins for the Metaverse
13. eHealth-IoT 2025 – 2nd IEEE International Workshop on E-Health Systems and IoT Technologies
14. ESAS 2025 – 20th IEEE International Workshop on E-Health Systems and Web Technologies
15. ICT4SmartGrid 2025 – 5th IEEE International Workshop on Rising ICT Solutions for Smart Grids as Multi-Energy Systems
16. IRINH 2025 – IEEE International Workshop on Intelligent Robotics and IoT for Next-Gen Healthcare
17. ITA 2025 – IEEE International Workshop on Intelligent Tools for Accessibility – Technologies Transforming the Future of Inclusive Solutions
18. MediComp 2025 – 11th IEEE International Workshop on Medical Computing
19. Mentorium 2025 – IEEE Mentorium 2025: Building Blocks for Researchers
20. MVDA 2025 – 13th IEEE International Workshop on Modeling and Verifying Distributed-Embedded Applications
21. NETSAP 2025 – 15th IEEE International Workshop on Network Technologies for Security, Administration and Protection

22. OER 2025 – 9th IEEE International Workshop on Open Education Resources
23. QUORS 2025 – 19th IEEE International Workshop on Quality Oriented Reuse of Software
24. SAPSE 2025 – 17th IEEE International Workshop on Security Aspects in Processes and Services Engineering
25. SDIM 2025 – 8th IEEE International Workshop on Secure Digital Identity Management
26. SESS 2025 – 9th IEEE International Workshop on Software Engineering for Smart Systems
27. SRS 2025 – IEEE Student Research Symposium
28. STA 2025 – 17th IEEE International Workshop on Software Test Automation
29. STPSA 2025 – 19th IEEE International Workshop on Security, Trust and Privacy for Software Applications
30. SCA 2025 – 8th IEEE International Workshop on Smart Computing and Applications

Overall, the IEEE COMPSAC 2025 workshops have attracted a high number of quality submissions from all over the world, and the final acceptance rate was really competitive, leading to a high-quality global workshops program.

III. OPEN RESEARCH ISSUES AND FUTURE RESEARCH CHALLENGES

Following the excellent research work made in the context of the IEEE COMPSAC 2025 workshops, several research challenges have emerged. Next, we report on some of the most noticeable ones:

- Quantum Computing and Quantum Software Development: As quantum computing progresses (e.g., [6]), there is increasing interest in developing algorithms and software that can leverage quantum hardware to solve problems in fields like cryptography, optimization, and complex simulations. Quantum programming languages and software frameworks are rapidly evolving to make quantum computing more accessible.
- Edge Computing and Distributed AI: With the rise of IoT devices, edge computing (e.g., [7]) has become crucial for processing data closer to the source, reducing latency and improving efficiency. Coupled with distributed AI, this paradigm is being applied in areas like autonomous vehicles, smart cities, and real-time analytics, enabling faster decision-making without relying solely on cloud infrastructure.
- Explainable AI (XAI) and Ethical AI: As AI models (e.g., [8]) become more complex and widely used, the need for transparency and interpretability is critical. Research into Explainable AI (XAI) aims to make AI systems more understandable to humans, allowing for better decision-making and increasing trust. Additionally, ethical AI focuses on creating frameworks to ensure fairness, accountability, and bias mitigation in AI systems.

IV. CONCLUSIONS

This paper has introduced the overview of the IEEE COMPSAC 2025 co-located workshops, and discussed some open research issues that have emerged from the different workshops' topics and selected contributions. From the analysis of workshops' contributions, it has emerged that Artificial Intelligence and big data for emerging applications, such as intelligent smart city applications, data analytics, advanced Deep Learning, advanced Natural Language Processing and so forth, are the most relevant topics to be investigated by future research efforts (e.g., [9]).

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IEEE COMPSAC 2025
Plenary Keynotes

July 8, 11:00 am - Room 215

Impact of IEEE Computer Society in Advancing Technologies, including LLM/AI and Software Engineering

Hironori Washizaki, 2025 IEEE Computer Society President; Professor & Associate Dean, Research Promotion Division, Waseda University

To be the leading provider of technical information, community services, and personalized services to the world's computing professionals, the IEEE Computer Society has been strategically providing activities and products related to emerging technologies and professional and educational activities, including Technology Predictions and the Guide to the Software Engineering Body of Knowledge (SWEBOK Guide). This talk first provides an overview of IEEE CS's strategic areas, including engaging our members, engaging the industry, and leading new areas such as AI and Society, with the cross-cutting strategic themes, including the empowerment and diversification of our volunteer base, nimbleness in execution, and diversity and inclusion. Then, the talk explains the latest version of the Technology Predictions 2025, which foresees 22 breakthrough technologies (incl. LLM/AI Agents, Mis/Disinformation, AI-based Medical Diagnosis, Next-gen cyber warfare, and more) to shape the future of our world for decades to come, and the SWEBOK Guide V4.0, which reflects the current state of generally accepted knowledge derived from the interaction between software engineering theory and practice. Furthermore, the talk introduces related endeavors and initiatives, including industry-focused events such as the Generative AI Summit and the SWEBOK Summit, as well as engagement and career development opportunities such as the CS Juniors program and professional certification programs.

Hironori Washizaki is the 2025 IEEE Computer Society (CS) president. He is a professor and the associate dean of the Research Promotion Division at Waseda University. He is a visiting professor at the National Institute of Informatics and an advisor at the University of Human Environments. He also works in the industry as an outside director and advisor at eXmotion and SI&C. He has led professional and educational activities at the IEEE CS, including the evolution of the Guide to the Software Engineering Body of Knowledge (SWEBOK) and the CS Juniors program. He has led many academia-industry joint research and large-funded projects in systems and software requirements, design, reuse, quality assurance, and AI software engineering. He leads a professional IoT/AI/DX education project called "Smart SE." Since 2015, he has been the convenor of ISO/IEC/JTC1/SC7/WG20 to standardize bodies of knowledge and certifications in systems and software engineering. He has been the IPSJ SIG Software Engineering (SIGSE) chair since 2021.

July 8, 1:30 pm - Room 215

From Turing Test to Turing Tack: AI's Transformative Tensions in Software Engineering

Neel Sundaresan, General Manager of Automation and AI at IBM

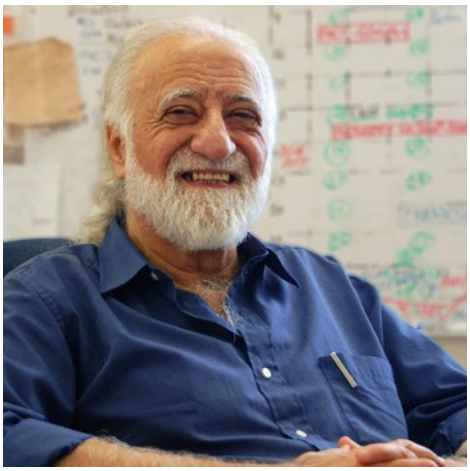
Generative and agentic AI are fundamentally transforming productivity in software engineering, driving unprecedented efficiencies while raising concerns about job displacement and systemic risks. As AI advances beyond traditional benchmarks like the Turing Test to actively replace and collaborate with human engineers, we are navigating uncharted territory in defining what constitutes "good" engineering. Claims that AI could automate between 30-70% of software tasks and potentially eliminate entire roles prompt urgent discussions around issues such as technical debt, security vulnerabilities, and the erosion of problem-solving skills. A phenomenon I term the "Turing Tack"—a less rigorous, overly optimistic approach is fast emerging and may lead to AI overstretching its capabilities, resulting in unpredictable impacts on the developer ecosystem. Real-world cases and emerging research reveal a spectrum from AI democratizing innovation to turning engineers into passive overseers, highlighting the delicate balance between productivity gains and systemic risks. Drawing on real-world cases and research, we explore how AI can both democratize innovation and risk reducing engineers to passive overseers. We'll examine the balance between productivity and systemic risk, offering practical strategies to help engineers become architects of sustainable, AI-powered engineering.

Neel Sundaresan is the General Manager of Automation and AI at IBM, leading AI-driven products for IT automation and developer productivity. Previously, he served as VP of AI and Engineering at Microsoft, where he pioneered the concepts of the "Internet of Code" and "Code as data" to enhance developer efficiency. Neel has also headed eBay's research and data labs, driving innovations in search, recommender systems, and Trust & Safety. An accomplished inventor with over 315 patents and more than 125 publications, he holds a Ph.D. in Computer Science from Indiana University and dual master's degrees in Mathematics and Computer Science from IIT Mumbai. Neel is a frequent speaker at international conferences and a dedicated social impact advocate.

July 9, 11:00 am - Room 215

Random Thoughts After 50 Years in the Trenches

Yale Patt, University of Texas at Austin; Virginia Cockerell Centennial Endowed Chair



After 60 years in the trenches, I have come up with a fair number of thoughts that I can share with you. Why do we engineers insist on coming up with a widget before we validate someone's research. The rest of the world values scholarship, understanding today what we did not understand yesterday, and the hell with widgets. You will never move the needle unless you work on challenging problems, assuming you want to move the needle and are not satisfied with solutions to mickey mouse problems that no one cares about. The chiplet is a long overdue component of tailoring the microengine. Bottom-up is for understanding, Top-down is for design. Top up? That is for the clueless who will never move the needle. Is Open-Source really going to live up to its hype. I have talked to more than a few chief architects of open source designs. In this talk, I will explore many of the above and some of those things not mentioned above in hopes of increasing both of our knowledge.

Yale Patt is a teacher at The University of Texas at Austin and the Virginia Cockrell Centennial Endowed Chair in the Cockrell School of Engineering. He earned obligatory degrees from reputable Universities and has received more than his share of awards for his research and teaching.

July 10, 11:00 am - Room 215

Can You Predict the Future?

Dejan Milojicic, VP at Hewlett Packard Labs

Predicting any future is hard, but predicting technological advancement and megatrends is especially hard because they entangle economic, socio-political, and ecological factors. We have been working on technology predictions for more than 15 years. Compared to market analysts and other forecasters, our predictions are aligned with the IEEE tagline of advancing technology for the benefit of humanity. Our predictions have made a large impact across IEEE, industry, and the world in general. I will present some of our most recent insights on technology predictions and megatrends, enablers and suppressers, and how technology advancement affects workforce.

Dejan Milojicic is an HPE Fellow and VP at Hewlett Packard Labs, Milpitas, CA [1998-present]. Previously, he worked at the OSF Research Institute, Cambridge, MA [1994-1998] and Institute "Mihajlo Pupin", Belgrade, Serbia [1983-1991]. He received his Ph.D. from the University of Kaiserslautern, Germany (1993); and his MSc/BSc from Belgrade University, Serbia (1983/86). His research interests include systems software, distributed computing, systems management, and HPC. Dejan has over 250 papers, 2 books, and 94 granted and 67 pending patents. Dejan is an IEEE Fellow (2010), ACM Distinguished Engineer (2008), and HKN and USENIX member. Dejan was on 9 Ph.D. thesis committees, and he mentored over 100 interns. Dejan was president of the IEEE Computer Society (2014), an IEEE presidential candidate in 2019, editor-in-chief of IEEE Computing Now and Distributed Systems Online and he has served on many editorial boards and TPCs. Dejan led large industry-government-university collaborations, such as Open Cirrus (2007-2011) and New Operating System (2014-2017).

IEEE COMPSAC 2025 - Plenary Panel
July 9, 1:30 pm - 3:00 pm - Room 215
Harnessing the Power of Intelligent Systems with Public Safety Technologies to Shape the Future

Public Safety is a key imperative that affects all of us, notable this year from the wildfires in California and Colorado, recent airplane disasters, and active shooters.

Public Safety per se is not considered a technology; it comprises all the various technologies that can and do contribute to public safety needs. These range from, but are not limited to communications and networking, edge and cloud computing, digital twins, IoT, blockchain, AI and machine learning, intelligent data, and augmented and virtual reality. All aspects can be attributed to technology megatrends and their predictions.

This panel's emphasis will be upon presenting practical applications and their implementation. panelist speakers will comment on current and past implementations – all towards development for a better future.

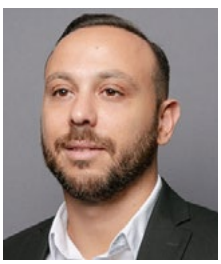
IEEE Future Directions launched this initiative on public safety technology.

Dr. Ming Hou is a Principal Scientist at Defence Research and Development Canada. He is responsible for delivering cutting-edge technological solutions, science-based advice, and evidence-based policy recommendations on AI and Autonomy science, technology, and innovation strategies to senior decision makers within the Department of National Defence (DND), Canada and the Canadian Armed Forces as well as their national and international partner organizations. His influential book: "Intelligent Adaptive Systems: An Interaction-Centered Design Perspective" has guided the development of a number of international defence capabilities, industry AI-enabled disruptive technologies, international standards for Remotely Piloted Aircraft Systems, and the United Nations White Paper on "Human-Machine Interfaces in Autonomous Weapon Systems: Consideration for Human Control".

Dejan Milojicic is an HPE Fellow and VP at Hewlett Packard Labs, Milpitas, CA [1998-present]. Previously, he worked at the OSF Research Institute, Cambridge, MA [1994-1998] and Institute "Mihajlo Pupin", Belgrade, Serbia [1983-1991]. He received his Ph.D. from the University of Kaiserslautern, Germany (1993); and his MSc/BSc from Belgrade University, Serbia (1983/86). His research interests include systems software, distributed computing, systems management, and HPC. Dejan is an IEEE Fellow (2010), ACM Distinguished Engineer (2008), and HKN and USENIX member. Dejan was president of the IEEE Computer Society (2014), an IEEE presidential candidate in 2019, editor-in-chief of IEEE Computing Now and Distributed Systems Online and he has served on many editorial boards and TPCs.

May Dongmei Wang is a Wallace H. Coulter Distinguished Faculty Fellow and full professor of Biomedical Engineering, Electrical and Computer Engineering, Computational Science and Engineering at Georgia Institute of Technology (GT) and Emory University (EU). She is Director of Biomedical Big Data Initiative, Georgia Distinguished Cancer Scholar, Petit Institute Faculty Fellow, Kavli Fellow, AIMBE Fellow, IAMBE Fellow, IEEE Fellow, and Board of Directors of American Board of AI in Medicine. Her research is in Biomedical Big Data with AI-Driven Intelligent Reality (IR) for predictive, personalized, and precision health (pHealth). She has 20+ years academic professorship and ~4 years industrial research experience, published 290+ articles in referred journals and conference proceedings with 15,000+ Google Scholar citations, and delivered 280+ invited and keynote lectures.

Kathy Grise, Senior Program Director – IEEE Future Directions, supports new and emerging initiatives, including cloud computing, big data, digital realities, AI/ML, digital twins, digital transformation, and public safety, supports IEEE Future Directions, and manages the digital presence team for Future Directions. Kathy serves as the Technical Program Chair of the IEEE COMPSAC 2025 Symposium – Data Sciences, Analytics, & Technologies (DSAT). Kathy received the 2024 IEEE Eric Herz Outstanding Staff Award, the highest recognition for a staff member. Prior to joining the IEEE staff, Kathy held numerous positions at IBM, and most recently was a Senior Engineering Manager for Process Design Kit Enablement in the IBM Semiconductor Research and Development Center.



Louis Nisiotis is leading research in innovation and application of eXtended Reality technologies to support and foster the ongoing digital transformation of a plethora of industrial, educational, entertainment and societal domains. His research interests include eXtended Reality (XR), the Metaverse, Cyber-Physical-Social Systems, Digital Twins, Serious & Entertainment Video Games, and Human Computer Interaction. Dr Nisiotis is currently the Programme Chair of the IEEE International Symposium of Emerging Metaverse (ISEMV 2025 and previously 2024), he was the General Chair of the IEEE International Conference on Intelligent Reality (ICIR 2022), and is a review editor and editorial member for prestigious scientific journals and conferences.

Mentorium 2025
July 11, 9:00 am - 10:30 am - Room A2

The Mentorium aims to support early-career researchers by providing mentorship, guidance on voluntary roles such as reviewing and organizing events in conferences, and advice on securing grants. It focuses on the vital development of early-career researchers by fostering mentorship, networking, and professional growth. Emphasizing the importance of engaging in voluntary roles and securing research funding, the Mentorium also facilitates collaboration with senior professionals to enhance both research and career development. By doing so, it equips participants with the necessary skills and connections to advance their academic careers and leadership potential.

Organizers:
Geeta Mahala, University of Wollongong, Wollongong, NSW, Australia
Silvio Meneguzzo, University of Turin, Brunel University of London

Mentorium participants: Scan the QR code for a google form that will help us learn more about you and stay connected!

IEEE COMPUTER SOCIETY

The **IEEE Computer Society** offers countless opportunities for students to connect with a global, and local, community of computing professionals to exchange ideas and learn from one other. Enhance your job seeking journey with Career Tools, tailored to give you an edge in securing and excelling in your desired role. Stay informed with relevant news, analysis, and blogs to keep you best informed, based on world-class research and thought leadership. Learn more at ***www.computer.org***

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IEEE Computer Society Career Center

IEEE Computer Society Courses & Certifications

IEEE Computer Society Build Your Career

9:00 am - 10:30 am

13th IEEE International Workshop on Architecture, Design, Deployment, and Management of Networks and Applications (ADMNET 2025)
Room A2
Session Chair: Hiroyuki Ohsaki

344: *ConPath: A Coordinator for Optimized Network Paths and Automated Traffic Handling*
Kazuki Tanabe, Motoki Takenaka, Harunobu Yoshida, Tatsuya Fujiwara and Teruhisa Tajima

1063: *An Analysis of Task Offloading Approaches in Edge-Cloud Continuum*
Jenish Modi, A B M Bodrul Alam and Muhammad Asaduzzaman

9540: *Route Selection Optimization for Multi-hop RADIUS Proxies in WLAN Roaming Systems*
Xirui Yang, Hideaki Goto and Takuo Suganuma

5875: *A Proposal of Policy Routing per End-Host in IPv6 Site Multi-homing using NPTv6*
Kazuma Yokoo, Tohru Kondo, Hidenobu Watanabe, Kaori Maeda and Reiji Aibara

IEEE International Workshop on Advanced Medical Image Analysis Using Virtual Reality (AMIA-VR 2025)
Room B2
Session Chair: AKM Jahangir Majumder

158: *Privacy-Preserving Federated Learning for Human Intention Modeling in Pediatric Cerebral Palsy Using Extended Reality*
Shokofeh Anari, Ramin Ranjbarzadeh, Martin Cunneen and Malika Bendechache

1780: *Grey Wolf Optimizer Enhances Adaptive Atrous Spatial Pyramid Pooling for Efficient Multi-Scale Feature Selection in Medical Image Segmentation*
Alireza Norouziazad, Fatemeh Esmaeildoost, Behrouz Homam and Razieh Salahandish

2855: *Lightweight Deep Learning with Virtual Reality Visualization for Offline Tumor Segmentation in Rural Environments*
Ramin Ranjbarzadeh, Shokofeh Anari, Martin Cunneen and Malika Bendechache

COMPSAC Symposium on Smart IoT Systems & Applications (SIoT 2025)
Room C2
Session Chair: Hironori Washizaki

1855: *Robust Smartphone Screen Integration with Deep Learning for Virtual Reality Pass-through*
Santiago Gomez Rosero, Lucas Jonathan Hartman, Ethan Alexander Pigou, Nicholas Strzelczyk and Miriam Capretz

2972: *An Efficie Trevor Hanz, Mohammad Ali, Zarif Sadman and Apan Qasem 433nt Task Scheduling Using Hybrid Q-NEH and CS-GWO in Fog Computing Environment*
Zeinab Sadeghi Chevinli, Michel Kadoch and Hamidreza Fereidouni

3168: *SmartTinkerer: Bridging Smart Home Testing Gaps with LLMs, Digital Twins & Reinforcement Learning*
Samad Alias Nyein Chan and Manar Alalfi

6257: *Addressing Context Awareness Requirements of IoT Systems: A Model-Driven Approach*
Mirza Rehenuma Tabassum and Sadaf Mustafiz

13th IEEE International Workshop on Consumer Devices, Systems and Services (CDS 2025)
Room 347
Session Chair: Yasuo Okabe and Ryozo Kiyohara

307: *Real-Time Hand Gesture Recognition for Touchless Video Control Using MediaPipe and Random Forest*
João Nunes, Thamer Nascimento, Juliana Félix and Fabrizzio Soares

3324: *Proposal for a Simulation Environment for Reproducing Diverse Combined Attacks in Autonomous Driving Systems*
Seiju Gima, Ryozo Kiyohara and Nobuhiro Kobayashi

3843: *Actual Traffic Congestion Reduction Method Using V2R on One-Lane Roads*
Rito Tsuboi and Ryozo Kiyohara

6753: *Operational Planning of a Home Energy Management System Using Regional Weekly Weather Forecasts to Mitigate Surplus Electricity*
Hiroaki Aoyama, Daisuke Kotani and Yasuo Okabe

7th IEEE International Workshop on Deep Analysis of Data-Driven Applications (DADA 2025)
Room E2
Session Chair: Akbar Namin

3667: *Chemically-aware Attention-based Multi-modal Fusion Framework for Molecular Representation Learning*
Yu Liu, Jonathan Hirst, Jianfeng Ren, Bencan Tang and Dave Towey

6330: *AI and Generative AI Transforming Disaster Management: A Survey of Damage Assessment and Response Techniques*
Aman Raj, Ankit Shetgaonkar, Lakshit Arora, Dipen Pradhan, Sanjay Surendranath Girija and Shashank Kapoor

7504: *IoT Malware Network Traffic Detection using Deep Learning and GraphSAGE Models*
Nikesh Prajapati, Bimal Karki, Saroj Gopali and Akbar Siami Namin

8177: *Churn Prediction in Digital Banking: Deep Learning Approaches with Minimal Data*
Gabriel Coimbra, Fabrício Silva and Thais Regina Silva

10th IEEE International Workshop on Distributed Big Data Management (DBDM 2025)
Room 344
Session Chair: Alfredo Cuzzocrea

3972: *A Novel AI-driven Automated Orthodontic Model Analysis to Improve Classification of Orthodontic Extraction Cases*
Sunna Ahmad, Adriel S. Araújo, Vinicius C. Teixeira, Carlos F.A. Gomes, Dalvan Griebler, Quinn Roederer, Scott Conley, Vinicius Dutra, Márcio Pinho and Hakan Turkkahraman

4544: *A State Channel Based Approach to Address Scalability of Healthcare Data Sharing*
Jahanzeb Shahid and Stelvio Cimato

4630: *Semantic Motif-Based Analysis of Post-Pandemic Mobility Adaptation in Brazil Using Mobile Phone Data*
Germano Santos, Fabrício Silva, Thais Regina Silva and Linnyer Ruiz

4911: *Voice-Activated Self-Monitoring Application (VoiS): User Acceptance and Satisfaction in the Field*
Hyunkyoung Oh, Li Yang, Tala Abu Zahra, Shiyu Tian, Min Sook Park, Jake Luo, Sheikh Iqbal Ahamed, Evelyn Chan and Jeff Whittle

COMPSAC Symposium on Emerging Advances in Technologies & Applications (EATA 2025)
Room D2
Session Chair: Sahra Sedigh Sarvestani

3979: *Resource Allocation Considering the Impact of Characteristics and Parallel Processing of Heterogeneous Computational Resources in Disaggregated Computing*
Narunori Ebara, Saki Hatta, Yuta Ukon, Hiroyuki Uzawa, Shoko Ohteru, Shuhei Yoshida and Ken Nakamura

7827: *Performance Analysis of Convolutional Neural Network By Applying Unconstrained Binary Quadratic Programming*
Aasish Kumar Sharma, Sanjeeb Prashad Pandey and Julian Martin Kunkel

8881: *GrapheonRL: A Graph Neural Network and Reinforcement Learning Framework for Constraint and Data-Aware Workflow Mapping and Scheduling in Heterogeneous HPC Systems*
Aasish Kumar Sharma and Julian Martin Kunkel

9146: *ArtArchitect: Adaptive Depth Correction and Outpainting for Realistic World Generation*
Yong Zhang, Henry Chan, Rufeng Duan, Haifeng Yu, Xuede Wang and Haonan Lin

10:30 am - 11:00 am
Coffee Break

11:00 am - 12:30 pm
Room 215
Keynote: *The Impact of IEEE Computer Society in Advancing Technologies, including LLM/AI and Software Engineering*
Hironori Washizaki, 2025 IEEE Computer Society President; Professor & Associate Dean, Research Promotion Division, Waseda University
To be the leading provider of technical information, community services, and personalized services to the world's computing professionals, the IEEE Computer Society has been strategically providing activities and products related to emerging technologies and professional and educational activities, including Technology Predictions and the Guide to the Software Engineering Body of Knowledge (SWEBOK Guide). This talk first provides an overview of IEEE CS's strategic areas, including engaging our members, engaging the industry, and leading new areas such as AI and Society, with the cross-cutting strategic themes, including the empowerment and diversification of our volunteer base, nimbleness in execution, and diversity and inclusion. Then, the talk explains the latest version of the Technology Predictions 2025, which foresees 22 breakthrough technologies (incl. LLM/AI Agents, Mis/Disinformation, AI-based Medical Diagnosis, Next-gen cyber warfare, and more) to shape the future of our world for decades to come, and the SWEBOK Guide V4.0, which reflects the current state of generally accepted knowledge derived from the interaction between software engineering theory and practice. Furthermore, the talk introduces related endeavors and initiatives, including industry-focused events such as the Generative AI Summit and the SWEBOK Summit, as well as engagement and career development opportunities such as the CS Juniors program and professional certification programs.

12:30 pm - 1:30 pm
Lunch break

1:30 pm - 3:00 pm

Keynote: *From Turing Test to Turing Tack: AI's Transformative Tensions in Software Engineering*
Neel Sundaresan, General Manager of Automation and AI at IBM
Generative and agentic AI are fundamentally transforming productivity in software engineering, driving unprecedented efficiencies while raising concerns about job displacement and systemic risks. As AI advances beyond traditional benchmarks like the Turing Test to actively replace and collaborate with human engineers, we are navigating uncharted territory in defining what constitutes "good" engineering. Claims that AI could automate between 30-70% of software tasks and potentially eliminate entire roles prompt urgent discussions around issues such as technical debt, security vulnerabilities, and the erosion of problem-solving skills. A phenomenon

I term the “Turing Tack”—a less rigorous, overly optimistic approach is fast emerging and may lead

to AI overstretching its capabilities, resulting in unpredictable impacts on the developer ecosystem. Real-world cases and emerging research reveal a spectrum from AI democratizing innovation to turning engineers into passive overseers, highlighting the delicate balance between productivity gains and systemic risks. Drawing on real-world cases and research, we explore how AI can both democratize innovation and risk reducing engineers to passive overseers. We’ll examine the balance between productivity and systemic risk, offering practical strategies to help engineers become architects of sustainable, AI-powered engineering.

3:00 pm - 3:30 pm
Coffee Break

3:30 pm - 5:00 pm

13th IEEE International Workshop on Consumer Devices, Systems and Services (CDS 2025)
9th IEEE International Workshop on Software Engineering for Smart Systems (SESS 2025)
Room A2
Session Chair: Kobayashi Nobuhiro

9860: *ELWA Testbed-as-a-Service: An ECHONET Lite Web API Testbed with Heterogeneous IoT Devices*
Van Cu Pham, Tao Xin, Marios Sioutis and Yasuo Tan

1050: *Performance Evaluation of Multi-Head Logging in Flash File Systems*
Jingcheng Yuan, Kiyofumi Tanaka and Toshiaki Aoki

4465: *Improving Social Connections through Mobile Social Networks*
Alvin Chin, Justin Chan, Joshua Garcia, Aria Barve, Kevin Leicht and Philip Yu

8118: *Message-Passing Based Communication via Asynchronous Execution (Shunts)*
Nayef Alshammari

8188: *Automatic Contrail Detection Using Integrated Satellite Observation, Meteorological Indicators, and Air Traffic Data in the United Kingdom*
Fathurrahman Yahyasatrio, Tamer Elboghdadly, Shikun Zhou and Nasreen Anjum

5th IEEE International Workshop on Dynamic Data Science and Big Data Analytics in Finance (DDS-BDAF 2025)
Room B2
Session Chair: Ruppa Thulasiram

545: *Towards AI Analyst: Querying Costly Features for Fraud and Money Laundering Detection*
Michaela Mašková and Václav Šmídl

1363: *Real Estate Fund Forecasting: Insights from Machine Learning and Time Series Models*
Henrique Diniz, Fabricio Silva, Thais Silva and Linnyer Beatrys Ruiz Aylon

8504: *Hybrid LSTM/GRU and Support Vector Regression Models for Stock Index Prediction*
Joy Dip Das, Ruppa Thulasiram, Sulalitha Bowala Mudiyanselage, Avanthi Saumyamala and Aerambamoorthy Thavaneswaran

COMPSAC Symposium on Smart IoT Systems & Applications (SIoT 2025)
Room 347
Session Chair: Hironori Washizaki

358: *Quantifying Completeness of Reconstructed Scenarios: A Case Study on Echo Show*
Sarfraz Shaikh and Weifeng Xu

832: *Physics-Informed Data Denoising for Enhanced IoT-based Water Quality Monitoring System*

Afroza Nowshin, Sumaiya Tasnim and Samia Tasnim

8780: *Towards Explainable AI in Continuous Smartphone Authentication: Leveraging CNN, BiLSTM, and Attention Techniques*
Damandeep Kaur, Andrew Pauls and Glaucio H.S. Carvalho

9488: *SEAD: Sensor Event-Based Anomaly Detection for Smart Home Automation*
Md Asif Tanvir, Fahim Irfan and Razib Iqbal

5th International Workshop on Rising ICT Solutions for Smart Grids as Multi-energy Systems (ICT4SmartGrid 2025)
13th IEEE International Workshop on Modeling and Verifying Distributed-Embedded Applications (MVDA 2025)
Room D2
Session Chair: Erich Malan

3195: *Privacy-Preserving Federated Learning for Household Characteristic Identification*
Erich Malan, Claudia De Vizia, Marco Castangia, Valentino Peluso, Andrea Calimera and Enrico Macii

3491: *Design and Evaluation of Vertical Scalability Strategies for Deploying Large-scale Co-simulations*
Carlos Gerardo Valeriano, Abouzar Estebsari, Lorenzo Bottaccioli, Edoardo Patti, Daniele Salvatore Schiera and Luca Barbierato

4713: *Benchmarking Genetic Algorithms for Short-Term Battery Energy Storage Systems Optimization*
Lorenzo Giannuzzo, Marco Massano, Daniele Salvatore Schiera, Francesco Demetrio Minuto, Davide Papurello, Francesco Meneghetti and Andrea Lanzini

9354: *A Time-constrained Verifiable Architecture-based Self-adaptive Software Programming Framework*
Atsushi Naito, Hiroyuki Nakagawa and Tatsuhiro Tsuchiya

6494: *Improving QoS for VM Allocation in Multi-Cloud Environment*
A B M Bodrul Alam, Faria Khandaker and Yuvraj Singh Palh

3418: *Workflow-Driven Modeling for the Compute Continuum: An Optimization Approach to Automate System and Workload Scheduling*
Aasish Sharma, Christian Boehme, Patrick Gelß and Julian Kunkel

7th IEEE International Workshop on Deep Analysis of Data-Driven Applications (DADA 2025)
Room E2
Session Chair: Akbar Namin

8525: *SDA-GRIN: Spatially Dynamic Aware Graph Recurrent Network for Multivariate Time Series Imputation*
Amir Eskandari, Aman Anand, Drishti Sharma and Farhana Zulkernine

8545: *Novel Data Driven High Dimensional Volatility Networks and Dynamic Price Networks*
Avanthi Saumyamala, Sulalitha Bowala Mudiyanselage, Erfanul Hoque, Aerambamoorthy Thavaneswaran, Alex Paseka and Ruppa Thulasiram

9571: *Synthetic Fouling Image Data Generation for Heat Exchanger Predictive Maintenance*
Nicholas Strzelczyk, Santiago Gomez-Rosero, Amanda Timotheo, Leonardo M. Honório and Miriam Capretz

7606: *CL-KAN: A Novel Hybrid Approach for Spatiotemporal Traffic Predictions*
Wanglong Chen and Xiali Li

3rd IEEE International Workshop on Data Science & Machine Learning for Cybersecurity, IoT & Digital Forensics (DSML 2025)
COMPSAC - Journal then Conference (J1C 2025)
Room 344
Session Chair: Frank Xu

3835: *Visualising Vein Pattern using Conditional Transformer-based GAN (CTransGAN) for Forensic Investigations*
Sumit Chhetri, Hamid Sharifzadeh, Ali Keivanmarz and Soheil Varastehpour

9994: *Forensic Intelligence Graphs: An LLM Approach to Digital Evidence Extraction and Relationship Analysis*
Honghe Zhou, Weifeng Xu, Josh Dehlinger, Suranjan Chakraborty and Lin Deng

3840: *FLORA: Federated Learning for Optimized Resource Allocation in Cinco de Bio*
Colm Brandon, Mashal Khan and Tiziana Margaria

6751: *Improving Energy Efficiency of Irregular Workloads with Transformers and Tabular Data Diffusion*
Mohammad Ali, Zarif Sadman and Apan Qasem

8076: *Spatio-temporal Explanation for Adversarial-Aware Cloud Vision Services*
Zerui Wang and Yan Liu

COMPSAC Symposium on Emerging Advances in Technologies & Applications (EATA 2025)
Room C2
Session Chair: Sahra Sedigh Sarvestani

1947: *Advancing DeFi: A Novel Approach to Accessible and Efficient Decentralized Finance*
Sajan Poudel, Abhishek Yadav, Niraj Pandey, Pranav Dhakal, Samir Bikram Rana and Shahid Noor

2299: *Traffic Signal Phasing Optimisation using Enhanced Q-network (EDQN)*
Jiping Cui, Ali Keivanmarz and Hamid Sharifzadeh

3462: *LLM-driven Data Service Discovery in the Internet of Production*
Devis Bianchini, Massimiliano Garda, Michele Melchiori and Anisa Rula

9:00 am - 10:30 am

Sorel Reisman Workshop
Room A2
Session Chair: Sheikh Iqbal Ahamed

Remarks on Dr. Reisman's legacy

5470: *The Good, the Bad, and the Potential of AI-based Systems in Computing Education*
Adrian Heffelman, Wilson Zuber, Mitrasree Deb, Aishwarya Manjunath, Hanze Aggabao, Hamza Magsi, Maya Galley, Mirza Tairin and Moushumi Sharmin

6462: *Digital Health Using Data Science*
Padmapriya Velupillai Mekandan, Paramita Basak Upama, Amity Ali, Masud Rabbani and Sheikh Iqbal Ahamed

COMPSAC Symposium on Computer Architecture & Platforms (CAP 2025)
Room E2
Session Chair: Cristina Seceleanu

3931: *GraLoc: Preserving Graph Locality to Minimize Read and Write Amplification on Flash Memory*
Po-Lun Wang and Tseng-Yi Chen

5414: *Integrating Attack-Fault Trees in the ODE Metamodel for Security and Safety Co-Analysis in the Automotive Domain*
Victor Grechi, André Luiz de Oliveira, Barbara Gallina, Leonardo Montecchi and Rosana Braga

7847: *A Multi-Tiered Autotuner for Portable Heterogeneous-Compute Interfaces*
Shahriar Ahmed Zisan, Mohammad Nooruddin, and Apan Qasem

472: *Secure Privacy Control inside Clouds with AMD SEV and Nested Virtualization*
Naoya Ando, Kazuki Takiguchi and Kenichi Kourai

COMPSAC Symposium on Computing Education & Learning Technologies (CELT 2025)
Room C2
Session Chair: Henry Chan

2324: *Towards Development of Ready-to-Use Hands-on Labs with Portable Operating Environments for Digital Forensics Education*
Tran Ngoc Bao Huynh, Haowen Xu, Brian Almaguer, Jun Dai and Xiaoyan Sun

6179: *Enhancing Chemistry Education: Evaluating Methods for Classifying Hand-Drawn Molecules and Generating 3D Visualizations*
Eduardo Amorim, Thamer Nascimento, Ana Karoline Valdo, Juliana Félix, Luciana Cardoso, Renan Vinicius Aranha and Fabrizzio Soares

7953: *Reimagining Technical Education: Enhancing X-Ops Learning with Speculative and Experiential Pedagogies*
Aazaade Faraji and Nuno Pombo

8385: *StuLAC: An Adaptive LLM-Driven Framework for Scalable Student Feedback Analysis in Software-Driven Educational Systems*
Yicheng Sun, Hi Kuen Yu, Jacky Keung, Yuchen Cao and Yihan Liao

9203: *Empowering Mathematics education in security and defence: technological tools and methodological strategies for motivation enhancement*
Marina Marchisio Conte, Giulia Boetti, Fabio Roman, Enrico Spinello, Nikolaos V. Karadimas, Linko Nikolov, Jaroslaw Zelkowski and Andrada Livia Cirneanu

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room D2
Session Chair: May Wang

4130: *Big Data Privacy in Multidimensional Domains: Models, Issues, Paradigms*
Alfredo Cuzzocrea

2957: *Causal Discovery on the Effect of Antipsychotic Drugs on Delirium Patients in the ICU using Large Observational EHR Dataset*
Riddhiman Adib, Md Osman Gani, Sheikh Iqbal Ahamed and Mohammad Adibuzzaman

3382: *Enhancing Public Safety with Digital Twins for Indoor Air Quality Monitoring by Non-Experts*
Louis Nisiotis, Aimilios Hadjiliasi and Nicholas Napp

3764: *Advancing Mental Disorder Detection: A Comparative Evaluation of Transformer and LSTM Architectures on Social Media*
Khalid Hasan, Jamil Saquer and Mukulika Ghosh

COMPSAC Symposium on Security, Privacy & Trust in Computing (SEPT 2025)
Room B2
Session Chair: Samer Khamaiseh

6806: *CSA-SACS: A Framework for Comparative Security Assessment in Smart Aging Care Systems*
Nilesh Chakraborty, Shahrear Iqbal and Mohammad Zulkernine

1516: *Mining Five Years of Actively Exploited Vulnerabilities*
Raphael Khoury, Khanmohammadi Kobra and Abdelwahab Hamou-Lhadj

5424: *SmartAttack: Exploiting Smartwatches for Ultrasonic Covert Channels in Air-Gap Attacks*
Mordechai Guri

2013: *Multiparty Selective Disclosure using Attribute-Based Encryption*
Shigenori Ohashi

3070: *Fixing Invalid CVE-CWE Mappings in Threat Databases*
Sevval Simsek, David Starobinski, Jonah Gluck, David Medina and Howell Xia

3175: *Few-Shot Learning-Based Cyber Incident Detection with Augmented Context Intelligence*
Fei Zuo, Junghwan Rhee, Yung Ryn Choe, Chenglong Fu and Xianshan Qu

COMPSAC Symposium on Emerging Advances in Technologies & Applications (EATA 2025)
Room 344
Session Chair: Ali Hurson

3721: *The Application of Transformer-Based Models for Predicting Consequences of Cyber Attacks*
Bipin Chhetri and Akbar Siami Namin

7276: *Harnessing the power of LLMs for Code Smell Detection in Terraform Infrastructure as Code*
Huy Vo, Ha Dao and Kensuke Fukuda

7678: *Tactile Texture Recognition On Uneven Surfaces Using Self-Attention Based Neural Networks*
Soheil Khatibi, Maliheh Marzani, Ruslan Masinjila, Vinicius Prado da Fonseca and Thiago Eustaquio Alves de Oliveira

7844: *A Two-stage Faster R-CNN Approach for Road Surface Damage Detection*
Vu Tuong Vy Le, Ali Keivanmarz and Hamid Sharifzadeh

COMPSAC Symposium on Smart & Connected Health (SCH 2025)
Room 347
Session Chair: Farhana Zulkernine

6551: *Performance Comparison of Quantum and Classical Machine Learning Models for Chronic Kidney Disease Prediction*
Parama Sridevi, Paramita Basak Upama, Masud Rabbani, William Cheng-Chung Chu, Yao-Hsien Tseng, Shyh-Wei Chen and Sheikh Iqbal Ahamed

6862: *Contextual Embedding-Based Clustering to Identify Topics for Healthcare Service Improvement*
K M Sajjadul Islam, Ravi Teja Karri, Srujan Vegesna, Jiawei Wu and Praveen Madiraju

7824: *A Meta-Learning Network Guided by Domain Knowledge of Fundus Images for the Diagnosis of High Myopia*
Wenxiu Cheng, Jianqiang Li, Xi Xu, Qixin Chen, Junyu Zhao, Boyan Wang, Linna Zhao, Haoran Peng and Li Li

7884: *Automatic Diagnosis of Hip and Knee Osteoarthritis from Medical Text Records*
Jiahao Cai, Vidhi Kokel, Farhana Zulkernine, John Queenan and David Barber

8136: *Personalized Mental Health Assistance with Large Language Models*
Fozle Rabbi Shafi, M. Anwar Hossain and Salimur Choudhury

10:30 am - 11:00 am
Coffee Break

11:00 am - 12:30 pm
Room 215
Keynote: *Random Thoughts After 60 Years in the Trenches*
Yale Patt
After 60 years in the trenches, I have come up with a fair number of thoughts that I can share with you. Why do we engineers insist on coming up with a widget before we validate someone's research. The rest of the world values scholarship, understanding today what we did not understand yesterday, and the hell with widgets. You will never move the needle unless you work on challenging problems, assuming you want to move the needle and are not satisfied with solutions to mickey mouse problems that no one cares about. The chiplet is a long overdue component of tailoring the microengine. Bottom-up is for understanding, Top-down is for design. Top up? That is for the clueless who will never move the needle. Is Open-Source really going to live up to its hype. I have talked to more than a few chief architects of open source designs. In this talk, I will explore many of the above and some of those things not mentioned above in hopes of increasing both of our knowledge.

12:30 pm - 1:30 pm
Lunch break

1:30 pm - 3:00 pm
Room 215
Plenary Panel: *Harnessing the Power of Intelligent Systems with Public Safety Technologies to Shape the Future*
Panel Moderator: Kathy Grise
Panelists: Ming Hou, Dejan Milojicic, May Wang, and Kathy Grise

3:00 pm - 3:30 pm
Coffee Break

3:30 pm - 5:00 pm

Sorel Reisman Workshop
Room A2
Session Chair: Dave Towey

2655: *Metaverse-enabled Learning Using a 6C Model-based Framework*
Ping Him Lam, Francis Cheung, Henry C. B. Chan and Minjuan Wang

3115: *The Technology Megatrends Predictions Retrospective and Outlook*
Dejan Milojicic

3510: *Serious game for higher Mathematics education: evaluation of the learning tool*
Alice Barana, Alberto Conte, Valeria Fradiante, Marina Marchisio Conte and Sergio Rabellino

4422: *Virtual Production: Global Collaboration and Challenges*
Juin Yang Lam, Changyu Li, Dave Towey, Lynne Chen, Levi Dean, Filippo Gilardi and Omar Zahran

1375: *White-box Fuzzing in the Wild: A Chaos Engineering Module for DevOps Security Education*
Md Mostafizur Rahman, Md Bajlur Rashid, Md Abdul Barek, Abm Kamrul Riad, Md Abdur Rahman, Shahriar Hossain, Akond Rahman, Fan Wu, Guillermo Francia III, Sharaban Tahora and Md Jobair Hossain Faruk

9906: *Specialized Training in LCNC and AI: from the Pedagogical Concept to the Experience*
Sean O Brien, Colm Brandon, Daniel Busch, Marco Krumrey, Daniel Sami Mitwalli, Amandeep Singh, Sebastian Teumert and Tiziana Margaria

COMPSAC Symposium on Autonomous Systems (ASYS 2025)
Room E2
Session Chair: Mihhail Matskin

1306: *A Novel Architecture for Cyber-Resilient Self-Protecting Systems Based on Blockchain*
Tommaso Caiazzi, Stefano Iannucci, Valerio Marini, Diego Pennino, Maurizio Pizzonia and Riccardo Torlone

1889: *A Novel Timing Model for Neural Networks in Safety-critical Systems*
Robin Hapka, Anika Christmann and Rolf Ernst

7008: *Design & Simulation of a Classical Controller to Improve the Performance of a Planar Stick-Slip Micro-Robot*
Alireza Khaleghi and Hamed Moradi

7412: *A Survey of Adversarial Methods in Autonomous Driving*
Huyan Gong and Dongcheng Li

COMPSAC Symposium on Computing Education & Learning Technologies (CELT 2025)
Room 344
Session Chair: Tiziana Margaria

3036: *Flipped-classroom Based Teaching Method for Data Structures and Algorithms*
Salim Saay and Tiziana Margaria

7665: *Empowering Educators for the Future: Leveraging Futuristic Thinking and Emerging Technologies*
Nuno Pombo

9681: *CoRe: A Comparative Study of Transformer Models for Context Recognition in Smart Classrooms*
Fahim Irfan, Razib Iqbal, Dawn Eckstein and Molly Strickland

9934: *Enhancing Educational Feedback: Summarizing Computer Science TA Feedback with Large Language Models*
Suqing Liu, Lisa Zhang, Oscar Karnalim and Michael Liut

COMPSAC Symposium on Security, Privacy & Trust in Computing (SEPT 2025)
Room D2
Session Chair: Dianxiang Xu

1962: *Enhancing the Detection of Anomalous Concurrent Artifact Operations in a Structured Workflow*
Yi Chen, Mahmoud M. Abouzeid and Feng-Jian Wang

7287: *Understanding and Mitigating Vulnerabilities of Random Walks against Adversarial Attacks*
Taiyo Hirayama, Han Nay Aung and Hiroyuki Ohsaki

6454: *AudioGap: An AirGapped Covert Channel Exploiting the Frequency Diversity of Audio IC Electromagnetic Leakage*
Mohamed Alla Eddine Bahi, Maria Mendez Real, Erwan Nogues and Maxime Pelcat

4651: *Vulnerability to Stability: Scalable Large Language Model in Queue-Based Web Service*
Md Abdul Barek, Md Bajlur Rashid, Md Mostafizur Rahman, Abm Kamrul Riad, Guillermo Francia III, Shahriar Hossain and Sheikh Iqbal Ahamed

COMPSAC Symposium on Security, Privacy & Trust in Computing (SEPT 2025)
Room B2
Session Chair: Weifeng Xu

8211: *Stealth Friend Locator: Server Blinded Private Location Sharing*
Tyler Nicewarner, Ali Allami and Dan Lin

3346: *MuAE: A Mutation Testing Framework for Evaluating Autoencoders*
Samer Khamaiseh, Steven Chiacchira, Anas Alsobeh and Aibak Aljadayah

3444: *A Lightweight Classifier for Identifying Obfuscation Methods for IoT Devices*
Wanju Kim, Youjeong Noh, Seoksu Lee and Eun-Sun Cho

5298: *Decentralized Learning using Hashgraph Consensus*
Robert Canady, Chandreyee Bhowmick and Xenofon Koutsoukos

6453: *Fine-tuned Large Language Models (LLMs): Improved Prompt Injection Attacks Detection*
Md Abdur Rahman, Hossain Shahriar, Guillermo Francia, Fan Wu, Alfredo Cuzzocrea, Muhammad Rahman, Sheikh Iqbal Ahamed and Md Jobair Hossain Faruk

7351: *Embedding with Large Language Models for Classification of HIPAA Safeguard Compliance Rules*
Md Abdur Rahman, Md Abdul Barek, Abm Kamrul Islam Riad, Md Mostafizur Rahman, Md Bajlur Rashid, Md Raihan Mia, Hossain Shahriar, Guillermo Francia III, Fan Wu, Alfredo Cuzzocrea and Sheikh Iqbal Ahamed

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room C2
Session Chair: MIng Hou

5307: *Social Media as a Lens for Understanding Public Trust in Science*
Panagiotis Monachelis, Emily Maitland, Kalypso Iordanou, Charalampos Patrikakis, Evren Yalaz and Pericles Papadopoulos

6772: *From Fine to Coarse: Analyzing Degree Distribution in Graph Coarsening*
Yuto Kakihara, Shota Inoue and Hiroyuki Ohsaki

8112: *Sprint Walk: Local Random Walks with Partial Non-Local Information*
Han Nay Aung and Hiroyuki Ohsaki

398: *Serialised Pulmonary Lesion Segmentation with Spatiotemporal Transformer*
Yantao Zhou, Jianqiang Li and Xiaoyan Gao

COMPSAC Symposium on Smart & Connected Health (SCH 2025)
Room 347
Session Chair: Hossain Shahriar

9311: *A Survey on Non-Invasive Computing: A Neurological-Hematological Framework for Early Sepsis and Stroke Detection with Future Directions*
Masud Rabbani, Nafi Us Sabbir Sabith and Sheikh Iqbal Ahamed

15: *Integrating Knowledge Graphs and Bayesian Networks: A Hybrid Approach for Explainable Disease Risk Prediction*
Mbithe Nzomo and Deshendran Moodley

3057: *Development of a Respiratory Motion Video Based Monitor for Noninvasive Mechanical Ventilation Synchronization in Premature Infants*
Carine Rech, Vinicius Teixeira, Humberto Fiori and Márcio Pinho

7748: *SmartADHDMonitor: A Novel Approach to Automatic ADHD Monitoring Through Smartphone App Usage Data*
Shweta Ware, Kritim Rijal and Laura E. Knouse

7755: *TransConv-DDPM: Enhanced Diffusion Model for Generating Time-Series Data in Healthcare*
Md Shahriar Kabir, Sana Alamgeer, Minakshi Debnath and Anne H. H. Ngu

9:00 am - 10:30 am

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room A2
Session Chair: Carolyn McGregor

756: *Deep Learning-Based Feature Fusion for Emotion Analysis and Suicide Risk Differentiation in Chinese Psychological Support Hotlines*
Han Wang, Jianqiang Li, Qing Zhao, Zhonglong Chen, Changwei Song, Jing Tang, Yuning Huang, Wei Zhai, Yongsheng Tong and Guanghui Fu

902: *Superiority of the Neural Network Models for Multivariate Price and Volatility Forecasting*
Avanthi Saumyamala, You Liang, Aerambamoorthy Thavaneswaran, Alex Paseka, Sulalitha Bowala Mudiyanselage and Ruppa Thulasiram

1042: *Lightweight Early-Warning Bot Detection on X (Twitter): Temporal Patterns and Entropy Insights*
Sanaz Adel Alipour, Jeannette Janssen, Rita Orji and Nur Zincir-Heywood

1879: *CKH: Causal Knowledge Hierarchy for Estimating Structural Causal Models from Data and Priors*
Riddhiman Adib, Md Mobasshir Arshed Naved, Chih-Hao Fang, Md Osman Gani, Ananth Grama, Paul Griffin, Uzma Hasan, Sheikh Iqbal Ahamed and Mohammad Adibuzzaman

2219: *Leveraging Semi-Supervised Learning to Reduce Labeled Data Requirements in Intrusion Detection*
Simone Albero, Tommaso Caiazzi, Stefano Iannucci, Paolo Merialdo and Riccardo Torlone

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room B2
Session Chair: Kostas Kontogiannis

2310: *BOOST: Batch Ordering for Training Deep Forecasting Models*
Javad Rahimipour Anaraki and Lei Guo

2425: *CFS-BAS-BP: Traffic Accident Risk Factor Recognition Model based on Combinatorial Feature Selection and Bionic Neural Network*
Yuying Li, Yishan Li, Yan Wang, Jing Liu and Zhuopeng Wang

2888: *Optimizing Sports Predictions Using Model Selection: A Case Study in Reproducible Data-Science*
Nick Cliffel

3295: *Deep Transfer Learning in Smart Building and Links with Edge Computing*
Christophe Cérin, Louis Closson and Didier Donsez

5876: *Optimization of Prompt Segmentation for Improving Event Recommendation Accuracy Using Generative Artificial Intelligence*
Shiori Oomoto, Miki Enoki and Masato Oguchi

3rd IEEE International Workshop on Advanced Visual Knowledge Management Tools (AVKMT 2025)
Room E2
Session Chair: Tiziana Margaria

1017: *Barriers to the Adoption of Visual Knowledge Management Tools: Challenges at the Intersection of Technology, People, and Process*
Stephen Ryan

2186: *Constant Change: Leveraging Digitalization for an organization's Evolutionary Fitness*
Barbara Steffen

7945: *Diagrams as Visual Knowledge Communication Tools in Interdisciplinary Postgraduate Education*
Salim Saay, Sean O Brien, Amandeep Singh, Amalia de Götzen, Viktoria Voronova and Tiziana Margaria

2912: *An Amodal Segmentation Pipeline for Critical Infrastructure Asset Imaging*
Jonathan Dupuis and James Green

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room C2
Session Chair: Kathy Grise

8257: *Batch Processing Algorithms for NewSQL-based Big Data Systems*
Naveen Kumar Vadlamudi and Wendy Osborn

8318: *Multi-Modal CSNNs for Integrated Toxicity Detection Across Text, Audio, and Visual Modalities*
Thu Nguyen, Sadaf Faizi, Simranjit Singh and Ismail El Sayad

8348: *Vi-Net: A Hybrid Semantic Segmentation Approach for Enhanced Wildfire Spread Prediction*
Manavjit Singh Dhindsa, Kshirasagar Naik, Pin Han Ho, Marzia Zaman, C.H. Lung, Srinivas Sampalli and Thambirajah Ravichandran

8600: *Unveiling Bias: Analyzing Race and Gender Disparities in AI-Generated Imagery*
David Cordero, Yijun Zhao, Priscilla Diaz and Gary Weiss

9873: *Comparative Analysis of Pre-trained Deep Learning Models and DINOv2 for Cushing's Syndrome Diagnosis in Facial Analysis*
Hongjun Liu, Changwei Song, Jiaqi Qiang, Jianqiang Li, Hui Pan, Lin Lu, Xiao Long, Qing Zhao, Jiuzuo Huang and Shi Chen

COMPSAC Symposium on Software Engineering Technologies & Applications (SETA 2025)
Room D2
Session Chair: Yuan Tian

4052: *License Compatibility Detection for OpenJavaWorks Open-Source Projects Based on Code Similarity*
Xiaotong Wang, Huiqun Yu, Guisheng Fan, Yuguo Liang, Wentao Chen and Jingyi Liu

8170: *Program Slicing in the Era of Large Language Models*
Kimya Khakzad Shahandashti, Mohammad Mahdi Mohajer, Alvine Boaye Belle, Song Wang and Hadi Hemmati

8253: *One Documentation Does Not Fit All*
Sharuka Promodya Thirimanne, Elim Yoseph Lemango, Giulio Antoniol and Maleknaz Nayebi

3844: *FRCS-LLM: A Framework for Refining Code Summarization in Large Language Models via Pre-trained Models*
Yuqi Wang, Chunli Xie, Wenbin Zhang and Xin Qiu

1098: *C2RustTV: An LLM-based Framework for C to Rust Translation and Validation*
Han Zhou, Yu Luo, Mengtao Zhang and Dianxiang Xu

COMPSAC Symposium on IT in Practice (ITiP 2025)
Room 344
Session Chair: Patrikakis Charalampos

1166: *PyLC+: A Scalable Python Framework for Automated Translation and Testing of Industrial PLC Programs*
Mikael Ebrahimi Salari, Eduard Paul Enoiu, Alessio Bucaioni, Wasif Afzal and Cristina Seceleanu

378: *Adapting Hybridization of Deep Learning Algorithms for High-Frequency Datasets*
Joy Dip Das, Avanthi Saumyamala, Sulalitha Bowala Mudiyanselage, Ruppa Thulasiram and Aerambamoorthy Thavaneswaran

2650: *Exploring the possibility of TypiClust for low-budget Federated Active Learning*
Yuta Ono, Hiroshi Nakamura and Hideki Takase

4178: *Developing a Cyber-Physical-Social Metaverse System for Interactive Cultural Heritage Experiences*
Louis Nisiotis, Charalampos Nikolaou, Nikita Markov and Aimilios Hadjiliasi

COMPSAC Symposium on IT in Practice (ITiP 2025)
Room 347
Session Chair: San Murugesan

6553: *GCCTNet: Enhancing Network Traffic Prediction through Decomposition and Hybrid Modeling*
Haipeng Liu, Wenhao Zhu and Jianfeng Hong

6674: *Chain-of-Summary: An Efficient Multi-Clustering Framework for Hierarchical Abstraction*
Chongchong Yang, Wenhao Zhu, Zhiqiang Yang, Chaoqian Liu and Jianfeng Hong

1786: *A Noval Assistant for Question-Answering from Training Video Sessions Using RAG*
Quentin Kembellec, Karima Boutalbi and Olivier Le Van

10:30 am - 11:00 am
Coffee Break

11:00 am - 12:30 pm
Room 215
Keynote: *Can You Predict the Future?*
Dejan Milojicic, HPE Fellow and VP at Hewlett Packard Labs
Predicting any future is hard, but predicting technological advancement and megatrends is especially hard because they entangle economic, socio-political, and ecological factors. We have been working on technology predictions for more than 15 years. Compared to market analysts and other forecasters, our predictions are aligned with the IEEE tagline of advancing technology for the benefit of humanity. Our predictions have made a large impact across IEEE, industry, and the world in general. I will present some of our most recent insights on technology predictions and megatrends, enablers and suppressers, and how technology advancement affects workforce.

12:30 pm - 1:30 pm
Lunch break

1:30 pm - 3:00 pm

COMPSAC Symposium on Human Computing & Social Computing (HCSC 2025)
Room 344
Session Chair: AKM Jahangir Majumder

3234: *Understanding the Association of Update Characteristics, Trust and Cognitive Dissonance with Intention to Update: A Study in the Context of Microsoft Windows*
Ehsan Ul Haque and Mohammad Maifi Hasan Khan

3807: *"There's Competition Even Among the Parents of Neurodiverse Children" - Understanding the Dynamics of Social Support Groups for Parents of Autistic Children*
Dmitriy Bogush, Daniel Koronthaly, Kevin Hubbard, Moushumi Sharmin and Shameem Ahmed

8910: *Beyond One-Size-Fits-All: GPT-Enabled Personalization of Academic Content for Neurodiverse Students*
Eli Graves, Adrian Heffelman, Lars Olt, Noah Bomben, Yasmine N. Elglaly, Shameem Ahmed and Moushumi Sharmin

2761: *Ontology-based Adaptive Knowledge System (OAKS): Adaptive and Consistent Knowledge Acquisition through LLMs for Diverse User Backgrounds*
Muran Yu, Jie Wang, Yirong Chen, Micheal Lepech, Ying Liu and Kincho Law

9752: *Distinguishing Between Science and Action in Climate Discourse on Reddit*
Rachel Jarvi, James Miele, Hieu Nguyen and Swapna Gokhale

COMPSAC Symposium on Autonomous Systems (ASYS 2025)
Room E2
Session Chair: Mihhail Matskin

8335: *Effects of Redundant LiDAR Sensors on Object Hiding Attacks in Autonomous Driving Systems*
Matthew Lee, William Flinchbaugh, Eric C. Larson and Mitchell A. Thornton

8767: *Multi-Strategy Enhanced COA for Path Planning in Autonomous Navigation*
Yifei Wang, Jacky Keung, Haohan Xu, Yuchen Cao and Zhenyu Mao

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room B2
Session Chair: Carolyn McGregor

9632: *Predicting Wildfire Burned Areas Using Graph Neural Networks*
Ursula Das, Kshirasagar Naik, P.-H. Ho, Marzia Zaman, C.-H. Lung, Srinivas Sampalli and Thambirajah Ravichandran

9676: *Statistical and Deep Learning Approaches for Risk Assessment and Volatility Forecasting in Renewable Energy Investments*
Shalini Jayanetti, Sulalitha Bowala Mudiyanselage, Aerambamoorthy Thavaneswaran, Sumeet Kalia and Razvan G. Romanescu

3016: *Harnessing Market Memory: Adaptive Reinforcement Learning with Fractional Brownian Motion for Portfolio Optimization*
Shivam Sharma, Shahram Latifi and Pushkin Kachroo

9364: *A Conformal Prediction-Based Framework for CPU Load Forecasting: A Black-Box Approach*
Edin Jelačić, Cristina Seceleanu, Peter Backeman, Ning Xiong, Tiberiu Seceleanu and Axel Jantsch

123: *Coarse Walk: Multilayer Random Walk with Coarsened Graph*
Kazuma Aoyama, Shota Inoue and Hiroyuki Ohsaki

1735: *KG-ITP: A Knowledge Graph for Intelligent Travel Planning*
Rajesh Sawant, Ashutosh Kumbhar, Aditya Patil, Girish Nalawade, Jahnavi Gona and Srividya Bansal

COMPSAC Symposium on Security, Privacy & Trust in Computing (SEPT 2025)
Room D2
Session Chair: Daisuki Kotani

4703: *oHIT - A framework for openHAB Interaction Threats Identification in IoT Systems*
Jason Quantrill, Noura Khajehnouri and Manar Alalfi

4831: *Verifying Reference Monitors via Exhaustive Access Pattern Generation*
Ryo Nakashima and Takahiro Shinagawa

5525: *Evaluating the Reliability of Digital Forensic Evidence Discovered by Large Language Model: A Case Study*
Jeel Piyushkumar Khatiwala, Daniel Kwaku Ntiamoah Addai and Weifeng Xu

5662: *VocalTrust: Preventing Impostors to Enhance Trustworthiness of Voice Authentication*
Ke Li, Cameron Baird and Dan Lin

6091: *Leveraging Large Language Models for Generating Training Datasets for Text Extraction from Thumbnails*
Alex Xu, Chimezie Onwuegbuchulem, Sarfraz Shaikh and Lin Deng

9484: *Hardware Authenticator Binding: A Secure Alternative to Passkeys*
Momoko Shiraishi and Takahiro Shinagawa

COMPSAC Symposium on Security, Privacy & Trust in Computing (SEPT 2025)
Room A2
Session Chair: Weifeng Xu

137: *Secure iOS mHealth Apps Development: An IDE-Embedded Framework for HIPAA-Aware Coding*
Md Bajlur Rashid, Md Abdul Barek, Md Mostafizur Rahman, Hossain Shahriar, Sheikh Iqbal Ahamed and Sharmin Yeasmin

6428: *SGPQ-IoT: Securely Generating Post-Quantum Keys for IoT Devices Using a Quantum Computer*
Maurice Ngouen, Mohammad Ashiqur Rahman, Alexander Perez-Pons and Nagarajan Prabakar

1242: *yak: WebAssembly-based Data Analysis Platform with Data Providers Driven Analysis Control*
Naoki Matsumoto, Tomoya Kawanishi, Kenji Ohira and Masahiro Kozuka

5671: *Smart Contract Reentrancy Vulnerability Localization Using Explainable Graph Neural Networks*
Haowei Liu, Yanxiang Tong, Shunhui Ji and Pengcheng Zhang

67: *Privacy-Preserving Self-Supervised Learning for Secure Image Processing: A BYOL-Based Framework for MNIST and Chest X-ray Data*
Abm Kamrul Islam Riad, Salma Ahmed, Maliha Zaman Nizum, Md Abdul Barek, Md Bajlur Rashid, Md Mostafizur Rahman, Guillermo Francia III, Hossain Shahriar and Sheikh Iqbal Ahamed

3664: *Physics-Informed Learning-based Attack Analytics for Electric Vehicle Charging Management Systems*
David Perry, Mohammad Zakaria Haider, Kumail Kazmi, Mohammad Ashiqur Rahman and Hossain Shahriar

5856: *Decentralized Access Control using Hyperledger Fabric*
Jubayer Hossain, Mehedi Hasan Nabil, Farhan Labib Jahin, Md Yeasin Ali, Hossain Shahriar and Md Sadek Ferdous

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room C2
Session Chair: Louis Nisiotis

3805: *On the Superiority of Data-Driven Combined Forecasts Based on Deep Learning Models*
Sulalitha Bowala Mudiyanselage, Md. Erfanul Hoque, Aerambamoorthy Thavaneswaran, Ruppa Thulasiram and Alexander Paseka

5177: *SynExpression: A Diffusion-Based Framework for Controllable Facial Expression Synthesis and Emotion Detection Using Facial Segmentation Pose Maps*
Shahrzad Sayyafzadeh, Simon Foo and Hongmei Chi

5254: *Vegetation Land Cover and Forest Fires in Canada: An Analytical Data Visualization*
Mutakabbir Abdul Mutakabbir, Chung-Horng Lung, Marzia Zaman, Sagar Naik, Richard Purcell, Srinivas Sampalli and Thambirajah Ravichandran

6433: *Autotuning CNN Workloads on the Edge: A Hybrid Approach with Cross-Domain Embeddings*
Trevor Hanz, Mohammad Ali, Zarif Sadman and Apan Qasem

7677: *Evaluating the Application and Performance of Regression Models in Predicting Cycling Power Output*
Euan Walker, Oluwaseun Bamgboye, Sarah Thomson and Xiaodong Liu

COMPSAC Symposium on Smart & Connected Health (SCH 2025)
Room 347
Session Chair: ABM Kamrul Riad

1244: *Examining Large Language Models Within Autism-Related Contexts: A Systematic Review of Bias and (Mis)Representation*
Katelyn Pryor, Thorleif Coleman, Syed Zuhair Hossain, Eric Tootill and Shameem Ahmed

8044: *A Mobile Application-Based Solution for Identifying Accessibility Challenges in Various Physical Classroom Designs at a U.S. Midwestern University*
Sayeda Farzana Aktar, Mason D. Drake, Calvin Berndt, Iftekhar Anam and Roger O. Smith

2145: *Ethical Dimensions of Artificial Intelligence in Personalized Medicine: Navigating Challenges and Shaping Future Policies*
Aishi Huang

3143: *Improving Time-Series Forecasting with Statistical and AI-Driven Feature Optimization*
Minakshi Debnath, Sana Alamgeer and Anne Hee Hiong Ngu

3948: *Encoder-Only Transformer for Detecting Multiple Neurodegenerative Diseases from Gait Analysis*
Giordana de Farias F. B. Bucci, Juliana Felix, Rogerio Salvini, Hugo Nascimento and Fabrizzio Soares

3:00 pm - 3:30 pm
Coffee Break

3:30 pm - 5:00 pm

COMPSAC Symposium on Data Sciences, Analytics & Technologies (DSAT 2025)
Room A2
Session Chair: Michiharu Takemoto

2581: *Evaluation of the Code Generated By Large Language Models: The State of the Art*
Zhihao Ying, Dave Towey and Yifan Zhang

7217: *Automated Duplicate Bug Report Detection in Large Open Bug Repositories*
Clare E. Laney, Andrew Barovic and Armin Moin

7354: *SQL-GENIE: SQL Protection using GENerative Modeling for Anomaly Detection against Injection and Evolved Adversarial Attacks*
Sadia Afrin, Marwa A. Elsayed and Nur Zincir-Heywood

5984: *Semantic Enhanced Relational Graph Attention Network for Chinese Medical Named Entity Recognition*
Jianqiang Li, Yueqi Chang, Xiaoyan Gao and Zihan Ding

6702: *Analyzing Deep Convective Cloud Properties for Philippines' Monsoon Heavy Precipitation Using Self-Organizing Maps*
Eunice Ledres, Shahram Latifi and Hannes Bauser

COMPSAC Symposium on Computer Architecture & Platforms (CAP 2025)
COMPSAC Symposium on Mobile, Wearable & Ubiquitous Computing (MOWU 2025)
Room E2
Session Chair: Edin Jelacic

1333: *High-Performance Address Translation for Solid-State Drives via Asymmetry Decomposition*
Yu-Ta Lin, Shuo-Han Chen, Kheng-Chong Tan and Chih-Ming Chen

99: *Evaluating YOLOv8 for On-Device Person Detection: Performance and Efficiency on Android Smartphones*
Marcus Elias Silva Freire, Marcos Silva, Álvaro S. Oliveira, Alessandra S. de Jesus, Igor S. de A. E A. Teles, Andreas J. Graubach, Hersio Massanori Iwamoto, Eduardo S. Almeida, Frederico A. Durao, Maycon L. M. Peixoto, Gustavo B. Figueiredo, Cassio V. S. Prazeres, Ivan Do C. Machado, Bruno P. Santos, Rodrigo R. G. E Souza and Rubisley de P. Lemes

6963: *Understandability of the Technology and Benefit May Not Be Enough to Nudge Users: An Exploratory Study in the Context of FIDO2 Adoption Behavior*
Youssef Amer, Ehsan Ul Haque, Zhelun Rong and Mohammad Maifi Hasan Khan

9917: *Enhanced tracking and reporting of missing persons using Knowledge Graph and Ontology Engineering*
Suparno Roy Chowdhury, Ayush Desai, Mrunal Kapure, Mustakim Shikalgar, Ramchander Venugopal and Srividya Bansal

5th IEEE International Workshop on Dynamic Data Science and Big Data Analytics in Finance (DDS-BDAF 2025)
Room 347
Session Chair: Ruppa Thulasiram

59: *A Deep Reinforcement Learning Approach for Portfolio Optimization of Brazilian Assets Using Fundamental and Sentiment Indicators*
Kéthlyn Silva, Felipe Sá, Deborah Fernandes, Márcio Fernandes and Fabrizzio Soares

8862: *Superiority of RMT Filtered Data-Driven Covariance Matrices for Resilient Networks and Portfolio Optimization*
Avanthi Saumyamala, Sulalitha Bowala Mudiyanselage, Aerambamoorthy Thavaneswaran, Alex Paseka, You Liang and Ruppa Thulasiram

9044: *Automating Business Intelligence Requirements with Generative AI and Semantic Search*
Nimrod Busany, Ethan Hadar, Hananel Hadad, Gil Rosenblum, Zofia Maszlanka, Okhaide Akhigbe and Daniel Amyot

9159: *A Vision on Sentiment Analysis and other AI Applications on Investments Portfolio Optimization*
Guilherme Margato Vital, Márcio Giovane Cunha Fernandes, Fabrízzio Alphonsus Alves de Melo Nunes Soares and Deborah Silva Alves Fernandes

COMPSAC Symposium on Security, Privacy & Trust in Computing (SEPT 2025)
Room D2
Session Chair: Dianxiang Xu

6784: *LLMs-Driven Vulnerability Detection Combining LogicASG Reasoning with In-Context Learning*
Wenhui Xia, Yanxiang Tong, Ben Wang and Pengcheng Zhang

7270: *VFProber: A Vulnerability-Fixing Identification Framework Based on Code Changes and Semantic Adjustment*
Jianan Dong, Yuguo Liang, Yujie Ye, Guisheng Fan, Huiqun Yu, Zijie Huang and Wentao Chen

8281: *A Lightweight Monitoring and Anomaly Detection Framework for IoT Devices*
Jie Yin, Yutaka Ishikawa and Atsuko Takefusa

9851: *An Enhanced Approach for Detecting Complex Opaque Predicates*
Hyungchang Jeon, Seoksu Lee and Eun-Sun Cho

218: *Reconstructing Judicial Digital Forensic Evidence Graphs from Legal Documents Using Large Language Models*
Omar Ramadan, Ruoyao Xiao, Dianxiang Xu and Weifeng Xu

COMPSAC Symposium on Software Engineering Technologies & Applications (SETA 2025)
Room B2
Session Chair: Yuan Tian

108: *On the Migration of Legacy Systems to an Event-Driven Architecture: A Survey*
Ikram Darif, Manel Abdellatif and Ghizlane El Boussaidi

624: *Graph-Centric Approaches for Coverage Optimization in Software Requirement Testing*
Zhiyao Wang, Xiujing Guo and Tatsuhiro Tsuchiya

2580: *Intent Based E2E Automated Test Case Generation for Web Applications Using LLM*
Zain Ul Abideen and Guo Junxia

1546: *Reimagining Business Processes with Large Language Models*
Houssem Chemingui

3351: *An Empirical Study on Hugging Face Trends, Topics and Challenges on Stack Overflow*
Hatem Feki, Manel Abdellatif and Mohammed Sayagh

6979: *Exploring the Use of LLMs to Reduce the Discard of MBT Tests*
Carlos D. Q. Lima, Felipe T. Leite, Everton L. G. Alves and Wilkerson L. Andrade

COMPSAC Symposium on IT in Practice (ITiP 2025)
Room 344
Session Chair: Patrikakis Charalampos

4616: *Towards Improved Research Methodologies for Industrial AI: A case study of false call reduction*
Korbinian Pfab and Marcel Rothering

5993: *AugOracle: In-Capability Raw Input Validation for Deep Learning Models in Deployment*
Zhengyuan Wei

7077: *AI-Generated Text Detection Using RoBERTa: A Generalizability and Explainability Analysis*
Karla Schäfer and Martin Steinebach

9826: *Metal Artifact Reduction Methods Using Deep Generative Models for Cultural Relics X-ray CT Images*
Jianqiang Li, Daxin Peng, Liang Qu, Xi Xu, Jianyu Liu, Zhenbin Xie, Qing Xiao, Xueyan Zhang, Jing Huang, Junyu Zhao, Qixin Chen and Wenyi Liang

Panel: Preventing Fragmentation of Key Technology Stacks due to Geopolitics
Room C2

Panel Moderator: Kathy Grise, IEEE Future Directions
Panelists: Dejan Milojicic, Ernesto Damiano, Louis Nisiotis

9:00 am - 10:30 am

8th IEEE International Workshop on Advances in Artificial Intelligence and Machine Learning: Futuristic AI and ML Models & Intelligent Systems (AIML 2025)
Room 344
Session Chair: San Murugesan

542: *Investigating Transferability in Multi-Agent Reinforcement Learning*
Corentin Artaud, Rafael Pina, Varuna De Silva and Xiyu Shi

2450: *Customer Lifetime Value Estimation Using Transactional Data*
João Marcos Ramos, Fabrício Silva, Thais Regina Silva and Linnyer Ruiz

3659: *A Grouping Algorithm for Training Tree-Shaped Models on Multiple GPUs with High Efficiency*
Cai-Feng Lin, Ding-Yong Hong, Pangfeng Liu and Jan-Jan Wu

7428: *Novel Norms for Pruning Convolutional Neural Networks*
Abrar Kazi, M. Anwar Hossain and Mohammad Zulkernine

IEEE International Workshop on Blockchain and Distributed Ledger Technologies (BlockDLT 2025)
Room B2
Session Chair: TBA

5738: *EVMx: An FPGA-Based Smart Contract Processing Unit*
Joel Poncha Lemayian, Hachem Bensalem, Ghyslain Gagnon, Kaiwen Zhang and Pascal Giard

6900: *A Game-Theoretic Incentive Model for DAO Governance*
Silvio Meneguzzo

7059: *Design and Evaluation of a Sub-8 Second Decentralised Marketplace for Energy Data*
Silvio Meneguzzo, Stefano Leto, Alessandro Mozzato, Alfredo Favenza and Claudio Schifanella

7092: *Block Generation & Ordering for Time-Sensitive Transactions in Cross-Chain Environments*
Jianfeng Ye, Nan Ding, Yawen Zhao

3rd IEEE International Workshop on Digital and Public Health (DIGI-HEALTH 2025)
Room C2
Session Chair: Amina Al Marzouqi

8527: *All the World is a Digital Stage: A proposed hybrid model for the use of digital storytelling and simulated clinical actors within nurse education at the University of Sharjah, United Arab Emirates*
Richard Mottershead, Peter Barlow, Michael Haddad, Muhammad Arsyad Subu, Nabeel Al-Yaatem, Jacqueline Maria Dias, Mini Sara Abraham, Fatma Refaat Ahmed, Alounoud Almarzooqi, Syed Azizur Rahman, Sawsan Abuhammad, Adil Farooq Wali, Mohammed Baqer Habeeb Abd Ali, Sadeq Al-Fayyadh and Khamees Bandar Obaid

9437: *Trustworthiness Features of Commercially Available Mobile Health (mHealth) Applications*
Joan Tejera, Swapna Gokhale and Elizabeth Gromisch

9953: *Parental Quality of Life in Childhood Cancer: The Influence of Father Involvement and Social Support*
Sawsan Abuhammad, Nabeel Al Yateem, Heba Hijazi, Richard Mottershead and Syed Azizur Rahman

8620: *Heart Attack Risk Prediction Using Spiking Neural Networks with Poisson-Based Temporal Encoding*
Amina Al Marzouqi, Syed Azizur Rahman, Said Salloum and Nabeel Al Yateem

186: *An AI-IoT Framework for Handwritten and Multilingual Prescription Interpretation with Timely Medication Reminder Support*
Abrar Zuhaer Tariq, Faisal Ahmed, Azad Khondoker and Mahfujur Rahman

17th IEEE International Workshop on Security Aspects in Processes and Systems Engineering (SAPSE 2025)
8th International Workshop on Smart Computing and Applications (SCA 2025)
2nd IEEE International Workshop on eHealth Systems and IoT Technologies (eHealth-IoT 2025)
Room D2
Session Chair: Stelvio Cimato

2346: *Blockchain in the Quantum Era: Surveying Security Challenges and Post-Quantum Cryptography*
Muhammad Taha Ramzan and Stelvio Cimato

4339: *Offline Attribute Sharing Methods for Authentication Traffic Reduction and Functionality Enhancement of Wireless LAN Roaming Systems*
Hideaki Goto

5693: *Can You Keep Calm?: Adaptive Gameplay using Heart Rate as a Controller*
Md Mosharaf Hossan, Rifat Ara Tasnim and Farjana Z Eishita

4157: *Efficient Interactive Cascade Learning for User-Aware Personalization in Edge Activity Recognition*
Oihane Gomez-Carmona, Diego Casado-Mansilla, Diego López-De-Ipiña and Javier Garcia-Zubia

11th IEEE International Workshop on Medical Computing (MediComp 2025)
Room E2
Session Chair: AKM Jahangir Majumder

476: *Interpretable Model for Brain Tumor Segmentation and Patient Survival Data*
Saud Hussain, Faheem Akhtar, Jianqiang Li, Zahid Hussain Khand, Baolin Zhu and Lijun Zhao

2267: *Infant Care Video Dataset for Classification of Interventions Using Transformers*
Igor Bogdanov and James Green

3877: *A Practical AI-Based Approach for Optimized Diagnosis of Tuberculosis on Chest X-ray*
Afonso Ueslei Fonseca, Emília Alves Nogueira, Bruno Moraes Rocha, Gabriel Silva Vieira, Deborah Silva Alves Fernandes, Juliana Paula Felix and Fabrizzio Soares

4489: *A Comparative Study of Data Balancing Techniques for Predicting Metastases in Colorectal Cancer Using the SEER Database*
Áurea Valéria Pereira Silva, Plinio de Sa Leitao-Junior and Juliana Paula Felix

8247: *Dual-Stream Diabetic Retinopathy Grading via Quality Assessment and Multi-Instance Learning*
Zhongwang Wei, Qing Zhao, Wenxiu Cheng, Xinghao Cao, Jianqiang Li and Yo-Ping Huang

IEEE Mentorium 2025: Building Blocks for Researchers
Room A2
Session Chairs: Silvio Meneguzzo and Abdul Mutakabbir
The Mentorium focuses on the vital development of early-career researchers by fostering mentorship, networking, and professional growth. It emphasizes the importance of engaging in voluntary roles like reviewing and organizing events, while also providing guidance on securing research funding. By facilitating collaboration with senior professionals, the Mentorium aims to equip participants with the necessary skills and connections to enhance their academic careers and leadership potential.

19th IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA 2025)
Room 347
Session Chair: Hossain Shahriar

2329: *Network Identity Management: Application, Action and Device Aware Monitoring*
Cenab Batu Bora, Julia Silva Weber and Nur Zincir-Heywood

1768: *Data Atomization: A Framework for On-Demand Association and Access Control of Sensitive Data*
Asara Senaratne and Leelanga Seneviratne

4729: *Explainable Artificial Intelligence Techniques for Software Development Lifecycle: A Phase-Specific Survey*
Lakshit Arora, Sanjay Surendranath Girija, Aman Raj, Dipen Pradhan, Ankit Shetgaonkar and Shashank Kapoor

8003: *Designs for Reducing Data Breach Impact*
George Yee

4546: *KASTroid: A Static Taint Analysis Framework for Kotlin-Based Android Applications*
Bara Nazzal, James Cordy and Manar Alalfi

10:30 am - 11:00 am
Coffee Break

11:00 am - 12:30 pm

8th IEEE International Workshop on Advances in Artificial Intelligence and Machine Learning: Futuristic AI and ML models & Intelligent Systems (AIML 2025)
Room A2
Session Chair: San Murugesan

4134: *A Comparative Analysis of Transformer and Traditional ML Models for Cyberbullying Detection on Twitter (now X)*
Muhammad Abusaqer

6878: *Quantifying creativity in AI-generated podcasts*
Harini Narayanan, Harini Narayanan and Harini Narayanan

7068: *Physical Fuzzy Rule Based Unsupervised News Article Clustering*
Marufa Kamal, Kishor Datta Gupta, Masrura Tasnim, Md. Mahfuzur Rahman, Mohd Ariful Haque and Roy George

7436: *Comparative Analysis of Styles in LLM-Generated Code for LeetCode Problems: A Preliminary Study*
Yifan Zhang, Tsong Yueh Chen, Rubing Huang, Matthew Pike, Dave Towey, Zhihao Ying and Zhi Quan Zhou

1140: *TinyML for Speech Recognition*
Andrew Barovic and Armin Moin

3562: *Bad Smells detection using Google Gemini*
Larisse Amorim, Ivandeclei Mendes, Letícia Alves and Eduardo Figueiredo

IEEE International Workshop on Intelligent Tools for Accessibility – Technologies Transforming the Future of Inclusive Solutions (ITA 2025)
Room B2
Session Chair: Fabrizio Soares

1980: *Solfeggio Training for the Blind:\\An Approach with Ableton Live Software*
Fabrizzio Soares, Cristiane Bastos Rocha Ferreira and Isabela Figueiredo Vaz

4414: *Breaking the Linear Barrier: A Multi-Modal LLM-Based System for Navigating Complex Web Content*
Gabriel Moterani and Wenjun Lin

5001: *Machine Translation of Comics with Visual Reconstruction for Linguistic Accessibility*
Thamer Nascimento, Leonardo Yago Nascimento Silva, Camila Horbylon, Diego Siqueira, Juliana Félix, Renan Vinicius Aranha and Fabrizzio Soares

6002: *Assistive Technologies for Teaching Programming to Visually Impaired Learners: A Systematic Review*
Felipe Mendes, Giordana de Farias F. B. Bucci, Ana Luísa Chagas, Juliana Félix and Fabrizzio Soares

8103: *Prototype Development and Initial Usability Testing of Managing My MS My Way*
Elizabeth Gromisch, Alex Manasoiu, Lindsay Neto, Aaron Turner, Dawn Ehde, Thomas Agresta, Heather Delmastro, Jodi Haselkorn and Swapna Gokhale

3rd IEEE International Workshop on Digital and Public Health (DIGI-HEALTH 2025)
Room C2
Session Chair: AKM Jahangir Majumder

6253: *Statistical Analysis of Food, Exercise, and HbA1c in Non-Diabetics*
Sumaiya Farzana Mishu, Maliha Zaman Nizum, Abm Kamrul Islam Riad, Md Arabin Talukdar and Hossain Shahriar

7124: *Federated Learning in Healthcare: Improving Patient Outcomes and Securing Sensitive Health Data*
Alaa Mushtaha

7213: *eHealth Mobile Specialist Practice Enabled by Open RAN in Remote Regions of Brazil*
Francisco Raimundo Albuquerque Parente, Daniel Alexi Braga Fonseca, Sergio Massami Sakai, Edson José Bonon, Flavia Martinho Ferreira Rocha, Rafael Tamborim Zansávio, Rodrigo Kenji Yaly Aoki, Fuad Mousse Abinader Junior and Eduardo Melão

351: *Tele-ICU Nursing in Saudi Arabia: Challenges and Opportunities*
Ahmad Rajeh Saifan, Saymaa Bassam Yousef Alakash, Hekmat Yousef Al-Akash, Muhammad Arsyad Subu, Nabeel Al-Yateem and Fatma Refaat Ahmed

4690: *Could Artificial Intelligence and Gamification support the professional development of maternal care providers in low resourced settings? An Exploratory Pilot Study*
Mohamad Alameddine, Shadi Saleh and Nour El Arnaout

20th IEEE International Workshop on e-Health Systems & Web Technologies (ESAS 2025)
Room D2
Session Chair: Stelvio Cimato

3592: *A Framework for Secure Sharing of Medical Images Based on Visual Cryptography*
Christian Coduri and Stelvio Cimato

7910: *The Impact of Foundational Models on Patient-Centric e-Health Systems*
Elmira Onagh, Maleknaz Nayebi and Alireza Davoodi

7956: *A Goal-Oriented Chatbot for Engaging the Elderly Through Family Photo Conversations*
Raymond Chung

8573: *Automation of Medical Insurance Post-Claims using OCR and RAG Models*
Ernestine Lerisha J, Santhosh M.R.S, Perumalraja Rengaraju, Chung-Horng Lung and Yang Cao

9942: *Mitigating Clinician Information Overload: Generative AI for Integrated EHR and RPM Data Analysis*
Ankit Shetgaonkar, Dipen Pradhan, Lakshit Arora, Sanjay Surendranath Girija, Aman Raj and Shashank Kapoor

11th IEEE International Workshop on Medical Computing (MediComp 2025)
Room E2
Session Chair: Alfredo Cuzzocrea

6651: *A Contrastive Learning and Region-Guided Approach for Long Clinical Text Classification*
Sirui Lv, Jianqiang Li, Yinuo Ouyang, Hongzhi Qi, Yinan Jiang and Qing Zhao

7091: *A Systematic Review of the Applications of Speech processing Technology in Neurological Diseases*
Ying Zhang, Xi Xu, Yinuo Ouyang, Linxuan Feng, Zhe Han, Jianqiang Li, Jian Yin and Jijiang Yang

7764: *Analysis and Reconstruction of Laryngectomised Speech using GAN Models*
Raj Patel, Hamid Sharifzadeh, Maryam Sabaee, Ian Mcloughlin and Jacqueline Allen

8236: *AI Agents for Clinical Data Assessment: Enhancing Decision-Making with Human-AI Collaboration*
Jamil Reza and Yasin Mamatjan

9003: *A Multimodal Framework Integrating Clinical Data and Facial Recognition for Enhanced Stroke Prediction*
Imane Lahyouli, Asad Harnekar, Corinne Lagorre and Yasin Mamatjan

15th IEEE International Workshop on Network Technologies for Security, Administration & Protection (NETSAP 2025)
Room 344
Session Chair: Hajime Shimada

1086: *An Enhanced Event-Based Dynamic Authentication Protocol Leveraging Arbiter PUF for IoT Devices*
Rizka Reza Pahlevi, Hirokazu Hasegawa, Yukiko Yamaguchi and Hajime Shimada

3761: *Impact Evaluation of Attacks on Data Flows in Systems With Heterogeneous Redundant Resources*
Kosei Shimoda, Daisuke Kotani and Yasuo Okabe

4470: *Privacy-Aware Traffic Log Anonymization Method for Realizing Both Malicious Activity Detection and Privacy*
Takeshi Ogawa, Hajime Shimada, Hirokazu Hasegawa and Yukiko Yamaguchi

19th IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA 2025)
Room 347
Session Chair: ABM Kamrul Riad

1020: *A Data-Driven Approach Using Hardware Performance Counters to Detect Micro-Architectural Attacks*
Jaya Kotha and Jean-Luc Gaudiot

9534: *Is Your PIN Safe Against Advanced Human-Centric Shoulder Surfing?*
Nilesh Chakraborty and Mohammad Zulkernine

9347: *Facilitating the Merging Process of Pull Requests in Automated-Testing Robot Framework*
Zhen-Yang Guo, Shuo-Han Chen, Andrew Garland, Wei-Hao Chen, Yu-Pei Liang and Chuan-Ming Liu

9426: *Novel Color Coded MITRE ATT&CK Inspired Attack Tree Modeling: Application in ICSs*
Natalija Vlajic, Melina Najimi and Milos Stojadinovic

12:30 pm - 1:30 pm
Lunch Break

1:30 pm - 3:00 pm

8th IEEE International Workshop on Advances in Artificial Intelligence and Machine Learning: Futuristic AI and ML Models & Intelligent Systems (AIML 2025)
Room A2
Session Chair: San Murugesan

3516: *Adversarial Attacks in Multimodal Systems: A Practitioner's Survey*
Shashank Kapoor, Sanjay Surendranath Girija, Lakshit Arora, Dipen Pradhan, Ankit Shetgaonkar and Aman Raj

9040: *Comparative Study of Depth Anything Model V2 and LiDAR sensors for Depth Map Estimation in Forest Environment*
Silvio Vidal De Miranda Junior, Welington Rodrigues, Gabriel Silva Vieira and Fabrizzio Soares

7796: *Optimizing LLMs for Resource-Constrained Environments: A Survey of Model Compression Techniques*
Sanjay Surendranath Girija, Lakshit Arora, Shashank Kapoor, Dipen Pradhan, Aman Raj and Ankit Shetgaonkar

9083: *Ethical AI: Towards Defining a Collective Evaluation Framework*
Aasish Sharma, Dimitar Kyosev and Julian Martin Kunkel

9457: *Event Classification of Accelerometer Data for Industrial Package Monitoring with Embedded Deep Learning*
Manon Renault, Mathieu Léonardon, Bastien Pasdeloup, Hamoud Younes and Hugo Tessier

926: *On the Use of GPT to Reveal Common Questions in Developers' Discussions*
Camila T. Ramalho, Alessandro Garcia, Juliana Alves Pereira, Wesley Assunção, Daniel Coutinho, Caio Barbosa, Carlos José Lucena and Rodrigo Ito

Fast Abstract
Room B2
Session Chair: Michiharu Takemoto

9357: *Narrative-Aware Cycling Route Design Using Generative AI*
Hayato Tomisu, Shota Morita, Naoto Kai and Tomoki Yoshihisa

1932: *Towards Supporting Modelling of Fault Tolerant Behaviour Using Behaviour Trees*
Elena Troubitsyna

1977: *MONDAY: A Unified Semantic Communication Profile with Dynamic Role Integration in Pub/Sub Systems*
Haruto Nakai and Michiharu Takemoto

4416: *Enhancing Educational Inclusivity through Interactive AI for Sign Language Interpretation*
Wai Kin Lo and Chi Fuk So

4916: *Multilingual and Informal Web Datasets for Robust Language Modeling*
Salatiel Jordão, Carine Santos and Maria Dantas

5483: *Driving factors for the adoption of blockchain: A focus on startup entrepreneurship*
Joshua Ebere Chukwuere

3rd IEEE International Workshop on Digital and Public Health (DIGI-HEALTH 2025)
Room C2
Session Chair: Farhana Zulkernine

4303: *Exploring knowledge and awareness of Artificial Intelligence among students in the College of Health Sciences*
Alounoud Almarzooqi, Syed Rehman, Fatma Ahmed, Heba Hijazi, Wegdan Issa, Richard Mottershead, Ahmed Hossain, Alfan Alketbi, Shadin Abunahleh, Fatma Hegazy, Lara Hajeer and Ramsha Kamal

4771: *Technology Utilization in Nursing Care Plans Documentation Record: A Scoping Review*
Muhammad Arsyad Subu, Anggun Harmaji, Fitria Handayani, Syamsulhuda Budi Musthofa, Syed Azizur Rahman, Richard Mottershead, Fatma Refaat Ahmed, Jacqueline Maria Dias, Mini Sara Abraham, Nabeel Al-Yateem, Janisha Kavumpurath, Ahmad Rajeh Saifan and Kusrini Semarwati Kadar

5275: *Digital Disruption: Investigating the Effects of Nighttime Technology Use on Researchers' Sleep Quality and Psychological Wellbeing*
Fatma Refaat Ahmed, Nabeel Al-Yateem, Sahel Mohammad Hajian, Meera Essam, Noura Mohamad, Alounoud Almarzooqi, Heba Khalil, Muhammad Arsyad Subu, Jacqueline Maria Dias, Mini Sara Abraham, Mohannad Aburuz, Heba Mustafa and Ahmad Rajeh Saifan

632: *Clustering effect on cancer molecular subtype classification*
Shahid Hussain

7067: *Towards a Voice-Adaptive LLM-Based Conversation Bot for Enhanced User Interaction*
Amir Eskandari, Tahosina Monir, Farhana Zulkernine, Michele Morningstar, Jordan Poppenk and Björn Herrmann

9953: *Parental Quality of Life in Childhood Cancer: The Influence of Father Involvement and Social Support*
Sawsan Abuhammad, Nabeel Al Yateem, Heba Hijazi, Richard Mottershead and Syed Azizur Rahman

17th IEEE International Workshop on Software Test Automation (STA 2025)
Room D2
Session Chair: Cristina Seceleanu

2117: *An analysis of test case coverage balancing for fault localization*
Reinaldo S. Júnior, Plínio S. Leitao-Junior and Thamer H. Nascimento

3722: *Exploring the Black-Box: Testing Image Synthesis Systems through Metamorphic Exploration*
Yihan Zhang, Zhihao Ying, Qian Zhang, Yifan Zhang and Dave Towey

6309: *Testing Objective-oriented Test Case Prioritization and Selection using Various Derived Attributes*
Anjali Rajith and Soki Sakurai

Student Research Symposium (SRS 2025)
Room E2
Session Chair: Ryo Nakamura

1334: *Vendor PulseGen: Generative Vendor Risk Management Platform*
Swapnil Yasasvi, Nilanjan Sinhababu, Suman Chakraborty and Shuvo Bardhan

1831: *A Hybrid AI Framework for Personal Health Monitoring Towards Precision Health*
Mbithe Nzomo

3455: *A-CLAPS: Automatic Correction of Language and Pronunciation Errors in Slide-based Presentations*
Yuan Li, Yanchi Liu and Yijun Zhao

6196: *Vulnerability Weightage and Prioritization Model: Derived from Real Data and Community Insights*
Suman Chakraborty, Saumyajeet Das and Shuvo Bardhan

6580: *Strengthening Cyber Resilience of Small Businesses in BFSI: A CIA-Driven Strategy for Investment and Risk Management*
Rajesh Seetharamarao, Suman Chakraborty and Shuvo Bardhan

6698: *Quantum Knowledge Graph: Leveraging QNLP for Semantic Relationship Modeling*
Suman Bharti and Dan Lo

7146: *Extending the Attack Graph Model: Integrating Reconnaissance Stages*
Suman Chakraborty, Owais Shaikh and Shuvo Bardhan

9785: *Cascading IDK Classifiers to Accelerate Object Recognition While Preserving Accuracy*
Ishrak Jahan Ratul, Zhishan Guo and Kecheng Yang

COMPSAC Symposium on Software Engineering Technologies & Applications (SETA 2025)
Room 344
Session Chair: Jeremy Bradbury

4655: *Predicting Bug Inducing Commits Using Commit-State Transition Analysis*
Alireza Tavakkoli Barzoki and Kostas Kontogiannis

5701: *JIT-Align: A Semantic Alignment-Based Ranking Framework for Just-In-Time Defect Prediction*
Yujie Ye, Yuguo Liang, Jianan Dong, Huiqun Yu, Guisheng Fan, Zijie Huang and Wentao Chen

230: *Towards Emergent Agility: Advancing Software Process Engineering*
Yasmeen Rawajfih and Ross Arnold

961: *QuanUML: Towards A Modeling Language for Model-Driven Quantum Software Development*
Xiaoyu Guo, Shinobu Saito and Jianjun Zhao

COMPSAC Symposium on Networks, Communications, Internet & Web Technologies (NCIW 2025)
Room 347
Session Chair: Kostas Kontogiannis

9417: *Radio link failure prediction in 5G networks using graph neural networks*
Isaac Ampratwum and Amiya Nayak

6982: *Breaking of Cyclic Dependencies by Scheduling for Scalable and Accurate Network Calculus Analysis*
Sören Jorczik and Steffen Bondorf

8987: *Graph Neural Network-Based Internet Traffic Prediction in 6G Networks with Genetic Algorithm Hyperparameter Optimization*
Isaac Ampratwum and Amiya Nayak

3:00 pm - 3:30 pm
Coffee Break

3:30 pm - 5:00 pm

IEEE International Workshop on Blockchain and Distributed Ledger Technologies (BlockDLT 2025)
RoomD2
Session Chair: Silvio Meneguzzo

1246: *A Blockchain-Powered Digital Twin Architecture for Consumer-Centric Energy Systems*
Silvio Meneguzzo, Nicolò Bertozzi, Marco Sacchet, Lucio Inglese and Alfredo Favenza

3397: *Blockchain-Based Source-to-Source News Verification*
Alberto Butera, Julia Staszczak, Patrick Mikalef and Valentina Gatteschi

3602: *A Hybrid LLM-Based Chatbot for Sustainable Cryptocurrency Investment Decisions*
Mikaeil M. Feridani, Ali Shiri, Samira Keivanpour

4568: *ConfMan Web 3.0: Decentralized Academic Conference Management System with Rust and Web 3.0*
Chian Min Gan, Chee Kiat Seow, Sye Loong Keoh, Dezhong Yao, Yigang Cen, Yiyu Cai, Nisha Jain and Qi Cao

5304: *Making Smart Contracts Easier To Understand*
Emanuele Antonio Napoli, Lorenzo Gangemi, Silvio Meneguzzo, Noemi Romani and Valentina Gatteschi

Fast Abstract (FA 2025)
Room E2
Session Chair: Michiharu Takemoto

5683: *Internet-of-Things traffic sensor real-time messaging and stream analytics*
Tom Komar

2763: *Formal Verification using Structural Abstraction and Selective Refinement*
Christoph Luckeneder, Ralph Hoch and Hermann Kaindl

9th IEEE International Workshop on Open Education Resources (OER 2025)
19th IEEE International Workshop on Quality Oriented Reuse of Software (QUORS 2025)
Room 344
Session Chair: Henry Chan

2800: *Letter Explorers: Investigating Mobile-Assisted Writing in Preschool Education*
Kaique Cruvinel Carvalho, Thamer Nascimento, Camila Horbylon, Heder Filho Silva Santos, João Primo, Juliana Félix, Marcos Alves Vieira and Fabrizzio Soares

3794: *An Empirical Study of VR Software Quality Based on Developer Forums and ISO/IEC 25010*
Yijun Lu, Hironori Washizaki, Naoyasu Ubayashi, Nobukazu Yoshioka, Jiong Dong, Yuyin Ma and Jati H. Husen

4652: *Designing Reusable LLM-Enhanced Assignments: A Quality-Oriented Framework for Software Engineering Education*
Olga Manakina and Chung-Horng Lung

COMPSAC Symposium on Software Engineering Technologies & Applications (SETA 2025)
Room A2
Session Chair: Song Wang

8965: *MVGText: Momentum and Variance Guided Hard-Label Text Test Case Generation*
Shunhui Ji, Yu Shi, Changrong Huang, Letian Cheng and Pengcheng Zhang

9852: *GRCEM: Generating Optimal Software Rejuvenation Strategies for Cloud-Edge Collaborative Systems Based on MADRL*
Xue-Yong Tan and Jing Liu

7732: *LSFuzz: Learning Adaptive Seed Selection Strategies for Fuzzing*
Mingqian Xiao, Yufeng Zhang and Zhenbang Chen

8285: *A Contrastive Learning Approach to Bug Severity Classification with Large Language Model Embeddings*
Mosarrat Rumman, Emon Roy, Anushka Zaman and Jeremy Bradbury

COMPSAC Symposium on Software Engineering Technologies & Applications (SETA 2025)
Room B2
Session Chair: Kazi Amit Hasan

9287: *Beyond Log Parsers: A Scalable AI-Driven Framework for Efficient Log Anomaly Detection in Software Engineering*
Yicheng Sun, Jacky Keung, Hi Kuen Yu, Shuo Liu, Yihan Liao and Jingyu Zhang

9493: *DeepSem: Multilayer Semantic Image Retrieval for High-Accuracy Multimodal RAG in Industrial Applications*
Yujia Qi, Shijia Gu, Wenxian Ma, Nan Wang and Qian Wang

9549: *Empowering AI to Generate Better AI Code: Guided Generation of Deep Learning Projects with LLMs*
Chen Xie, Mingsheng Jiao, Xiaodong Gu and Beijun Shen

5132: *APIRAT: Integrating Multi-source API Knowledge for Enhanced Code Translation with LLMs*
Chaofan Wang, Guanjie Qiu, Xiaodong Gu and Beijun Shen

COMPSAC Symposium on Software Engineering Technologies & Applications (SETA 2025)
Room C2
Session Chair: Jiho Shin

5776: *Zimic: Bridging the Gaps in API Mocking for Typescript Projects*
Diego Aquino and Everton Alves

7132: *Enhancing LLM-Based Code Generation with Complexity Metrics: A Feedback-Driven Approach*
Melika Sepidband, Hamed Taherkhani, Song Wang and Hadi Hemmati

8149: *Avoidance of Feature Configuration Faults in Software Product Lines*
Burcu Ergun, Tugkan Tuglular and Fevzi Belli

COMPSAC Symposium on Networks, Communications, Internet & Web Technologies (NCIW 2025)
Room 347
Session Chair: AKM Jahangir Mazumder

1039: *Towards More Accurate Mobile Direction Finding with UWB*
Yerkezhan Sartayeva and Henry C.B. Chan

1582: *Affinity and Interference-Aware Service Deployment for Energy Efficiency in Cloud Data Centers: A Deep Reinforcement Learning Approach*
Jin Xu, Huiqun Yu, Guisheng Fan and Hengrun Zhang

7701: *BitInfer: An Automated Field Semantic Inference Method Based on Genetic Algorithm*
Yixuan Zhang, Liang Fang, Junhai Yang, Zifu Li and Fenghua Li

9122: *Automatically pinpointing original logging functions from log messages for network troubleshooting*
Gaspard Damoiseau-Malraux, Satoru Kobayashi and Kensuke Fukuda

CALL FOR PAPERS
COMPSAC 2026

Agentic AI—Innovative Software, Computing Paradigms, and Applications

Universidad Politécnica de Madrid - Spain

July 7-10, 2026

https://ieeecompsac.computer.org/2026/

COMPSAC, the IEEE Computer Society's flagship conference on Computers, Software, and Applications, has been a leading international forum for over 50 years. It brings together experts from academia, industry, and government to explore cutting-edge research, emerging challenges, and future trends in computing technologies.

The theme for COMPSAC 2026, ***Agentic AI: Innovative Software, Computing Paradigms, and Applications for Migrating from Reactive Models to Proactive Systems***, highlights a crucial shift in artificial intelligence. Traditional AI has focused on generating information or responding to queries, but the next wave of AI development centers on proactive AI agents—systems that plan multi-step processes, make autonomous decisions, and learn from their interactions.

These AI agents are not just theoretical constructs but are rapidly reshaping industries. Reports like Stanford's AI Index 2025 indicate that AI agents now surpass humans in specialized tasks such as coding assistance and time-sensitive decision-making. Leading enterprises are embedding these systems into their workflows, demonstrating that agentic AI is transitioning from academic research to practical implementation—offering personalized services, accelerating response times, and enhancing operational efficiency.

Balancing Innovation with Responsibility

Developing AI agents requires more than just improving technical performance. Researchers must ensure that these systems are ethical, safe, and sustainable. As AI autonomy increases, mitigating risks and ensuring sound reasoning in high-stakes environments become paramount.

Key Research Areas at COMPSAC 2026

COMPSAC 2026 will spotlight research on the evolution of reactive AI models into proactive systems through AI agents, covering topics such as:

- Autonomous decision-making & task planning
- Multi-agent coordination & communication
- Reinforcement learning & adaptive algorithms
- Tool usage & integration
- Explainability, transparency & trust
- Ethical, social & safety considerations
- Multimodal perception & interaction
- Human-agent collaboration & social interaction
- Robustness & scalability in real-world environments

Conference Structure & Opportunities

Organized as an integrated union of symposia, COMPSAC 2026 will focus on the technical aspects of computing, software, and applications, with a special emphasis on agentic AI paradigms. The program will feature:

- Keynote addresses
- Research papers
- Industrial case studies
- Fast abstracts
- Student research symposia
- Poster sessions
- Workshops & tutorials

A highlight of the conference will be plenary and specialized panels addressing the technical challenges in AI computing systems and the cultural and societal impacts of evolving communication norms.

Submission Guidelines

Authors are invited to submit original, unpublished research and industrial practice reports. Simultaneous submission to other venues is generally prohibited, except under COMPSAC 2026's JC & CJ program. All submissions must adhere to IEEE Publishing Policies and will be vetted through the IEEE CrossCheck portal.