

IMPORTANT NOTE:

The safety and well-being of all conference participants is our priority. After evaluating the COVID-19 uncertainty, the decision has been made to transform the in-person component of Computing Conference 2020 into a virtual format. Computing Conference 2020 will now be held as an online/virtual event on 16 & 17 July 2020.

Keynote Speakers



Vinton G. Cerf (Google)

Vinton G. Cerf is vice president and Chief Internet Evangelist for Google. He contributes to global policy development and continued spread of the Internet. Widely known as one of the "Fathers of the Internet," Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. He has served in executive positions at MCI, the Corporation for National Research Initiatives and the Defense Advanced Research Projects Agency and on the faculty of Stanford University.

Vint Cerf served as chairman of the board of the Internet Corporation for Assigned Names and Numbers (ICANN) from 2000-2007 and has been a Visiting Scientist at the Jet Propulsion Laboratory since 1998. Cerf served as founding president of the Internet Society (ISOC) from 1992-1995. Cerf is a Foreign Member of the British Royal Society and Swedish Academy of Engineering, and Fellow of IEEE, ACM, and American Association for the Advancement of Science, the American Academy of Arts and Sciences, the International Engineering Consortium, the Computer History Museum, the British Computer Society, the Worshipful Company of Information Technologists, the Worshipful Company of Stationers and a member of the US National Academy of Engineering and US National Academy of Science. He has served as President of the Association for Computing Machinery, chairman of the American Registry for Internet Numbers (ARIN) and is serving a new term on the Visiting Committee on Advanced Technology for the US National Institute of Standards and Technology and the Science Committee of the NASA Advisory Council. President Obama appointed him to the National Science Board from 2012-2018.

Cerf is a recipient of numerous awards and commendations in connection with his work on the Internet, including the US Presidential Medal of Freedom, US National Medal of Technology, the Queen Elizabeth Prize for Engineering, the Prince of Asturias Award, the Tunisian National Medal of Science, the Japan Prize, the Charles Stark Draper award, the ACM Turing Award, the Franklin Medal, and the Catalunya International Prize. He is an officer of the Legion d'Honneur and holds 29 honorary degrees. In December 1994, People magazine identified Cerf as one of that year's "25 Most Intriguing People."

Keynote Title: On the Vulnerabilities of the Digital Age

Abstract: As we increase our dependence on digital technology for our daily existence we are also discovering serious increase in vulnerability and dependence on a potentially fragile infrastructure. In this talk, we will discover the origins of vulnerabilities ranging from exploitable software "bugs" to social and behavioral hazards. We will also encounter the long-term challenge of preserving access to digital content and the unanticipated side-effects of social networking. The spread of misinformation and disinformation has reached disrupting proportions. There is much work to do to correct what could be a disastrous arc in our digital future.



René Mayrhofer (Johannes Kepler University Linz (JKU), Austria & Google)

René Mayrhofer is currently heading the Institute of Networks and Security at Johannes Kepler University Linz (JKU), Austria. Between 2017 and 2019, he was the Director of Android Platform Security at Google in Mountain View (US) and helped make recent advances in usable, mobile security research available to the Billions of Android users. Since his return to Linz, he continues to be involved with Android security as a domain expert to foster exchange and collaboration between Android teams at Google and academic research groups.

Previously, he held a full professorship for Mobile Computing at Upper Austria University of Applied Sciences, Campus Hagenberg, a guest professorship for Mobile Computing at University of Vienna, and a Marie Curie Fellowship at Lancaster University, UK. His research interests include computer security, mobile devices, network communication, and machine learning, which he currently brings together in his research on securing mobile devices and digital identity. Within the scope of u'smile, the Josef Ressel Center for User-friendly Secure

Mobile Environments, his research group looked into full-stack security of mobile devices from hardware through firmware up to user interaction aspect. One particular outcome was a prototype for a privacy conscious Austrian mobile Driving License (AmDL) on Android smartphones supported by tamper-resistant hardware. René has contributed to over 80 peer-reviewed publications and is a reviewer for numerous journals and conferences. He received Dipl.-Ing. (MSc) and Dr. techn. sub auspiciis praesidentis rei publicae (PhD) degrees from Johannes Kepler University Linz, Austria and his *venia docendi* for Applied Computer Science from University of Vienna, Austria.

Keynote Title: Digital Authentication in the Real World without Sacrificing Privacy

Abstract: How can we use digital identity for authentication in the physical world without compromising user privacy? This central question is an underlying concern for further developments in ubiquitous computing scenarios: enabling individuals to – for example – use public transport and other payment/ticketing applications, access physical doors, access computing resources on public terminals, or even cross country borders without carrying any form of physical identity document or trusted mobile device. Moving towards such a device-free infrastructure-based authentication could be easily facilitated by centralized databases with full biometric records of all individuals, authenticating and therefore tracking people in all their interactions in the digital and physical worlds. However, such centralized tracking is not compatible with fundamental human rights to data privacy. One option to gain the utility of such digital authentication without sacrificing privacy rights is a fully decentralized approach to digital user authentication in the physical world. An ensemble of biometric sensors, different verifiers, and decentralized personal identity agents gives each individual better control over their digital and physical world interactions and data traces they leave.



Benedict du Boulay: (Emeritus Professor, University of Sussex)

Following a Bachelors degree in Physics at Imperial College London, he spent time both in industry and as a secondary school teacher before returning to university to complete his PhD in 1978 in the Department of Artificial Intelligence at the University of Edinburgh working on Logo. After a post-doc position at Edinburgh, a lectureship at the University of Aberdeen and a Sloan Fellowship at the University of California San Diego, he joined Sussex as a lecturer in

1983. He has been at Sussex since then, taking many roles of responsibility including Dean of Cognitive and Computing Sciences (COGS, 1994-1998) as well as Dean of Science and Technology (2002-2009). He has held two Erskine Fellowships at the University of Canterbury, New Zealand (2010, 2012) where he taught a course Artificial Intelligence in Education. He became an Emeritus Professor at the University of Sussex in 2010 and a visiting Professor at the London Knowledge Laboratory within University College London (UCL) in 2017. He has two main research areas. The first is the Psychology of Programming where his main work has been in the area of novices learning programming and the development of tools to assist that process. The second is the application of Artificial Intelligence in Education. Here he is particularly interested in issues around modelling and developing students' metacognition and motivation. He has edited/written 11 books and written over 190 papers (including 56 journal papers) in the areas indicated above. He has 3 invited commentary papers in the 2016 Anniversary Issue of the International Journal of Artificial Intelligence in Education celebrating his highly cited papers over the last 25 years. According to Google Scholar he has an h-index of 32 and an i10-index of 85.

Keynote Title: Artificial Intelligence in Education: where are we now?

Abstract: AI in Education is a field that has been explored since the 1970s, but has only relatively recently come to prominence. This talk will describe three of the roles that AI currently plays in education: assisting (i) the individual learner, (ii) the teacher and a class of learners, and (iii) the lecturer concerned with multiple cohorts of learners. In the first role are intelligent tutoring systems and intelligent learning environments that track the individual learner's evolving understanding, skill and motivation to deliver an enjoyable and effective learning experience. In the second role are orchestration systems designed to help a teacher manage a classroom of learners working with online tutors and their homework. In the third role are systems helping lecturers track the use of, manage and adapt the learning materials used by large cohorts such as at the Open University or via MOOCs.



Amir H. Gandomi (University of Technology Sydney)

Amir H. Gandomi is a Professor of Data Science at the Faculty of Engineering & Information Technology, University of Technology Sydney. Prior to joining UTS, Prof. Gandomi was an Assistant Professor at the School of Business, Stevens Institute of Technology, NJ and a

distinguished research fellow in BEACON center, Michigan State University. Prof. Gandomi has published over one hundred and sixty journal papers and five books which collectively have been cited more than 12,500 times (h-index = 55). He has been named as Highly Cited Researcher (top 1%) for three consecutive years, 2017 to 2019, and ranked 19th in GP bibliography among more than 12,000 researchers. He has also served as associate editor, editor and guest editor in several prestigious journals and has delivered several keynote/invited talks. His research interests are global optimization and (big) data mining using machine learning and evolutionary computations in particular.

Keynote Title: Evolutionary Computation: Concepts and Key Applications

Abstract: Evolutionary computation (EC) techniques are a subset of artificial intelligence, but they are slightly different from the classical methods in the sense that the intelligence of EC comes from biological systems or nature in general. The efficiency of EC is due to their significant ability to imitate the best features of nature which have evolved by natural selection over millions of years. The main theme of this presentation is about EC techniques and their application to real-world problems. On this basis, the presentation is divided into two separate sections including (big) data mining, and global optimization. First, applied evolutionary computing in data mining field will be presented, and then their new advances will be mentioned such as big data mining. Here, some of my studies on big data mining and modelling using EC and genetic programming, in particular, will be presented. As case studies, EC application in some real-world problems will be introduced. And then, application of EC for response modelling of a complex engineering system under stochastic loads will be explained in detail to demonstrate the applicability of these algorithms on a complex real-world problem. In the second section, the evolutionary optimization algorithms and their key applications in the optimization of complex and nonlinear systems will be discussed. It will also be explained how such algorithms have been adopted to real-world problems and how their advantages over the classical optimization problems are used in action. Optimization results of large-scale systems using EC will be presented which show the applicability of EC. Some heuristics will be explained which are adaptable with EC and they can significantly improve their results.

Computing Conference 2020

16-17 July 2020

London, United Kingdom

conference@thesai.org (mailto:conference@thesai.org)

[Terms and Conditions \(/Conferences/Terms\)](#)