

Preface

It is our great pleasure to present the proceedings of the 2nd International Conference on Advent Trends in Computational Intelligence and Communication Technologies (ICATCICT 2025), jointly organised in hybrid mode (in-person and online) by the MG Aricent Educational Foundation, with academic and supporting partners University of Malta (Malta) and P. R. Pote Patil College of Engineering and Management (Amravati, Maharashtra, India). The conference took place on 8–9 November 2025.

Over recent years, the fields of computational intelligence and communication technologies have undergone transformative change driven by the rapid expansion of data-driven methods, the convergence of machine learning with communication networks, the emergence of edge and cloud-native intelligence, and the urgent need for resilient, secure systems in a hyper-connected world. ICATCICT 2025 seeks to respond to these evolving landscapes by providing a forum for researchers, engineers, industry practitioners, and policy-makers to exchange novel ideas, present cutting-edge research, and explore interdisciplinary collaborations.

This year's conference features a rich programme of peer-reviewed papers, keynote speeches, expert tutorials, and hybrid sessions to facilitate global participation. The submissions reflect the broad scope of the event, spanning topics such as:

- advanced computational intelligence algorithms and applications (e.g., deep learning, evolutionary computation, reinforcement learning)
- intelligent communication systems and networks (e.g., 5G/6G, IoT/AI-enabled networks, cognitive radio, edge/fog architectures)
- integration of intelligence with ubiquitous communication (e.g., federated learning over networks, distributed AI, human–machine interaction)
- security, privacy, and trustworthy systems in intelligent communications
- applications spanning smart cities, healthcare, industrial IoT, autonomous systems and beyond

We extend our sincere thanks to all authors for their contributions, to the reviewers for their rigorous evaluations, and to the organising committee and support staff for their dedication in delivering a seamless hybrid experience. Our professional partners and academic sponsors have also played an indispensable role.

Guest Editor(S)

Dr. Mangesh Ghonge, MG Aricent Educational Foundation, Nashik, India

Dr. Vinod Kumar Shukla, Associate Professor, Information Technology, Amity University, Dubai, UAE

Dr Lalit Garg, Associate Professor in Computer Information Systems, University of Malta, Malta

Dr. Haipeng Liu, Coventry University, United Kingdom

Dr. Tien Anh Tran, Scientific Researcher, University of Malta, Msida, Malta