Workshop on Complex-Valued Deep Learning and SARFish Challenge

Program

Sunday 7 January 2024 at the Waikoloa Beach Marriott Resort, Hawaii, USA

8:30 am – 8:45 am: Welcome
8:45 am – 10:05 am: Session 1

    8:45 am: Keynote 1

        Quantum and Spectral Methods for Complex-Valued Signals, Richard Wilson (University of York, UK)

    9:25 am: Keynote 2

        Co-Domain Symmetry, Stella Yu (University of Michigan, USA)

10:05 am – 10:30 am: Coffee Break
10:30 am – 12:20 am: Session 2

    10:30 am: Keynote 3

        The xView3, Ritwik Gupta (DIU, USA)

    11:05 am: Keynote 4

        Simple is good, but complex is better, Anwaar Ulhaq (Central Queensland University, Australia)

    11:45 am: Challenge Presentation

        On the SARFish Challenge on Global-scale Synthetic Aperture Radar Detection and Classification, Connor Luckett, Tan Cao and Antonio Robles-Kelly (DSTG, Australia)

12:20 pm – 12:30 pm: Close

About The Speakers

Stella Yu

Stella Yu received her Ph.D. from Carnegie Mellon University, where she studied robotics at the Robotics Institute and vision science at the Center for the Neural Basis of Cognition. Before she joined the University of Michigan faculty in Fall 2022, she had been the Director of Vision Group at the International Computer Science Institute, a Senior Fellow at the Berkeley Institute for Data Science, and on the faculty of Computer Science, Vision Science, Cognitive and Brain Sciences at UC Berkeley. Dr. Yu is interested not only in understanding visual perception from multiple perspectives, but also in using computer vision and machine learning to automate and exceed human expertise in practical applications.

Richard Wilson

Richard Wilson is a full Professor at the University of York, UK, where he is the head of the Artificial Intelligence Group. His research career in computer vision, machine learning and pattern recognition spans more than 30 years. Over that time, he has been involved in around 20 funded research projects and have published 66 papers in international journals and more than 170 conference papers. His research interests are in foundations of machine learning, ML with graphs and networks and 3D Object Recognition (mainly with meshes). He is a Fellow of the IAPR and an Editorial Board Member of the Pattern Recognition Journal.

Anwaar Ulhaq

Dr. Anwaar Ulhaq is serving as a senior lecturer and deputy leader, in Machine Vision and Digital Health Research at the School of Computing, Mathematics, and Engineering, Charles Sturt University. He has extensive teaching and research experience from reputed Australian universities and has worked as a research fellow at Institute for Sustainable Industries & Liveable Cities, Victoria University, Australia. He received the Faculty Research Award in 2021 and Teaching Excellence Award in 2019 at CSU. His research interests include artificial creativity, deep learning, data analytics, and computer vision, reinforcement learning and thermal imaging and night vision.

Ritwik Gupta

Ritwik Gupta serves as the Deputy Technical Director of Autonomy at the Pentagon's Defense Innovation Unit. He is also a PhD student in artificial intelligence and public policy at the University of California, Berkeley, and an AI Policy Fellow at Berkeley's Center for Security in Politics, where he is co-advised by Drs. Trevor Darrell and Shankar Sastry. His research focus is on computer vision for humanitarian assistance and disaster response, as well as the development of policies related to the use of machine learning in developing areas. He is an AI Policy Fellow in the Center for Security in Politics under the advisement of Sec. Janet Napolitano.