

Title: Uncertainty-Assisted Trustworthy Decision Making with Machine Learning

Abstract: As machine learning (ML) becomes a more prevalent technology in many measurement applications, some directly or indirectly affecting human safety, the issue of making trustworthy decision based on ML prediction becomes important, and in some cases vital. In this talk, we will see how uncertainty can be quantified in both ML regression and ML classification, and how it can be used to catch less-trustworthy ML predictions, leading to more accurate and trustworthy systems that can be deployed in the real world.

Bio: Shervin Shirmohammadi received his Ph.D. in Electrical Engineering in 2000 from the University of Ottawa, Canada, and after spending 3 years in the industry as a senior architect and project manager, joined as Assistant Professor the same University, where since 2012 he has been a Full Professor with the School of Electrical Engineering and Computer Science. He is Director of the Discover Laboratory, doing research in machine learning-assisted measurements, especially vision-based measurement, IoT measurements, and multimedia and network measurements. The results of his research, funded by more than \$28 million from public and private sectors, have led to over 400 publications, over 70 researchers trained at the postdoctoral, PhD, and Master's levels, 30+ patents and technology transfers to the private sector, and four Best Paper awards. Dr. Shirmohammadi is an IEEE Fellow "*for contributions to multimedia systems and network measurements*", recipient of the 2019 George S. Glinski Award for Excellence in Research, the 2021 IEEE Instrumentation and Measurement Society (IMS) Distinguished Service Award, and the 2023 IEEE IMS Technical Award "*for contributions to the advancement of machine learning-assisted measurements*".

