Tapan Shah, Ph.D., Lead Scientist, GE Research

Role/Expertise: Sequential Optimization, Uncertainty Quantification

Citizenship: India

Clearances: None

Education: Ph.D. in Computer Science, 2014, Tata Institute of Fundamental Research, India
B.Tech. in Electronic Engineering, 2008, National Institute of Technology, Surat, India

Relevant Experience: Dr. Tapan Shah is a researcher trained in theoretical and practical aspects of machine learning, optimization and signal processing. At GE, he has contributed to several programs including a) surrogate modeling for locomotive cooling system b) data-driven edge control of wind turbines, smelters and locomotives. and c) optimizing response to healthcare asset failures. He is a key researcher in the DARPA RED program to extract signatures of attack toolchains generating adversarial attacks on AI systems. His current research interests include developing faster and lighter machine learning algorithms and latent space sampling for sequential optimization. He was awarded the GE CTO Award (5 Under 5) for exceptional contribution to areas of machine learning and signal processing. He holds 3 patents and has co-authored 5 peer reviewed publications.

Relevant Publications and Patents:

1. **Shah, T**., State Aware Principal Action Space Embedding for Centralized Multi-agent Reinforcement Learning, Adaptive Learning Agents, AAMAS, 2020.
2. **Shah,T.**, Signal Processing for systems with low precision ADC, Doctoral thesis published by School of Technology and Computer Science, Tata Institute of Fundamental Research, 2015.
3. **Shah, T.**, Govindappa S., Nistler P., Narayanan B., Digital twin system for a cooling system, Patent Granted US9881430B1.
4. **Shah, T.,** Dabeer, O**.** Fast inverse lithography using machine learning, Indian Workshop on Machine Learning, 2013.