Many aspects of finance, especially in complex trading domains, have been driven by numerical methods for many decades. However, with recent advances in deep learning, there has been strong interest not only in machine learning, but also in broader AI approaches such as knowledge representation, constrained optimization and planning, game theory, NLP, human-robot interaction and model explainability. In this talk, I will present a diverse set of research areas and applications being pursued at J.P. Morgan, including examples of deep reinforcement learning in multi-agent systems. The goal of the talk is to not only demonstrate new approaches to well-understood problems in finance, but to also highlight exciting new opportunities in areas such as synthetic data generation, cryptography and AI fairness.

Prashant Reddy is a Managing Director for AI Research at JPMorgan Chase in New York, where he is a Research Director and the Head of Technology for AI Research. Previously, Prashant was at Google where he led the Machine Learning team for Android/IoT. Prior to that, he was Senior Algorithms Manager at Nest Labs and the Founder & CEO of Lumator, a tech startup that provided AI-powered services to consumers in electricity markets. At Carnegie Mellon University, he co-created Power TAC, an open-source agent-based simulation environment for Smart Grid research and competition. Earlier in his career, Prashant was a Managing Director at Morgan Stanley where he led engineering teams for algorithmic trading and distributed trading and risk infrastructure. Prashant is a winner of the McGinnis Venture Competition, the Canfield-Roseman Entrepreneur of the Year Award, and the Contributions to the Morgan Stanley Franchise Award.