Over the years, my research and teaching interests have progressively evolved in alignment with the rapid advancements in computing and networking technologies. This evolution has spanned a broad spectrum—from foundational work in parallel and distributed computing to wideband, high-speed optical network architectures; from wireless sensor networks, ad hoc networks, and Wi-Fi technologies to broadband communication systems; from early multilayer neural networks to transformative deep learning architectures and their applications; and from botnet and malware detection to blockchain technology. My research group and I have often pursued multiple areas in parallel, reflecting the interdisciplinary nature of our work.

Our current research projects include: (1) developing Neural Collapse–inspired novel metrics for interpreting DNN classifiers and their applications; (2) formulating mathematical models to predict the performance of image segmentation models; and (3) quantifying hallucination uncertainty in large language models (LLMs) using a quantum tensor network–based uncertainty quantification pipeline.

I received the B.Tech. degree (Hons.) in electronics and electrical communication engineering from IIT Kharagpur, the M.S. degree in computer science from the IISc Bengaluru, and the Ph.D. degree in computer science from the University of Central Florida, Orlando. I am currently an Associate Professor of computer science with the University of Miami, Coral Gables, FL, USA.