

MECHANICAL & AEROSPACE ENGINEERING GRAD STUDENT SEMINAR

From Data to Autonomy: AI for Systems That Fly, Drive and Sense

Friday, October 9
11:00 AM
AME Room 106

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ABSTRACT: Many of the hardest problems in autonomy lack the data they need. This talk draws on field stories from industry teams I advised, who built their own robots, drones, and radios to collect it. The stories cover navigation without GPS using FM radio signals, direction finding with a single rotating antenna (where feature selection cut bearing error from 57° to 11°), and drone-assisted bridge inspection. Along the way, it covers why machine learning is optimization, why handing more decisions to machines makes verification and oversight more important, and multimodal perception. It closes with an open call for collaborators on a DARPA proposal.

BIO: Piyush Kumar is a Professor of Computer Science at Florida State University. His research covers machine learning, computer vision, robotics, and computational geometry. He has published more than 50 peer-reviewed papers with over 5,000 citations, was a named inventor on multiple patents, and co-authored a book on Python programming. His honors include the NSF CAREER Award, an AFOSR Young Investigator Award, a Fulbright Scholar Award, and the FSU Innovator Award. He has graduated 9 Ph.D. and 15 M.S. students. He also advises industry teams on education and AI through CompGeom Inc.



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