Statement of Teaching and Mentoring

Teaching Philosophy. Teaching has always been central to my motivation to pursue an academic career. I view teaching as both an intellectual responsibility and a relational commitment, one that requires clarity, rigor, care, and sustained engagement with students at different stages of their development. My goal is to create learning environments that emphasize conceptual understanding, active participation, and the ability to translate data, models, and algorithms into effective decision-making in real-world contexts.

A guiding principle in my teaching is captured by the proverb: *"Tell me, and I'll forget. Show me, and I may not remember. Involve me, and I'll understand."* I design courses to involve students directly in reasoning, implementation, and reflection through problem-solving, discussion, and structured practice. I aim to be rigorous and evidence-based, while also fostering student confidence, curiosity, and a sense of belonging. Across my courses in algorithms, systems, probability, artificial intelligence, and data science, I integrate examples drawn from platforms, markets, and analytics-driven environments to help students understand why abstract concepts matter and how they inform decisions related to pricing, targeting, experimentation, and resource allocation.

My teaching is shaped by both academic and industry perspectives. My experience as a marketing analyst at Accenture informs my approach to connecting analytical models with real-world business problems, including campaign evaluation, customer targeting, and operational decision-making. In recent years, I have also become increasingly attentive to the pedagogical challenges posed by generative AI. While these tools can support learning through problem and scenario generation, my focus remains on adapting instructional design to preserve academic integrity, deepen understanding, and ensure fair and meaningful assessment.

Instructional Experience. I am currently a *Teaching Assistant Professor of Electrical and Computer Engineering* at the University of Illinois Urbana–Champaign, where I teach and coordinate undergraduate and graduate courses spanning computing, algorithms, probability, data science, and financial engineering. My recent teaching includes CS/ECE 374 (Introduction to Algorithms and Models of Computation), ECE 120 (Introduction to Computing), ECE 220 (Computer Systems and Programming), ECE 313 (Probability with Engineering Applications), as well as IE 522 (Financial Computing) and IE 523 (Statistical Methods for Finance) in the Master of Science in Financial Engineering (MSFE) program. These courses serve students across computing, data science, engineering, and quantitative finance, and my responsibilities include all aspects of course delivery: lecturing, assignment and exam design, instructional infrastructure, office hours, and supervision of teaching assistants. In CS/ECE 374, I have managed the full course operation for large enrollments, ensuring coherence across lectures, labs, and assessments. Teaching these courses has allowed me to support students at critical stages, from introductory computing to advanced analytical reasoning and graduate-level quantitative finance, while consistently emphasizing how computational, statistical, and optimization-based methods inform structured decision-making in complex environments.

Previously, as a *Visiting Lecturer* at the University of Maryland, Baltimore County, I taught courses in artificial intelligence, machine learning, software engineering, and automata theory, with full responsibility for course design and delivery.

Prior to my Ph.D., I taught across business and quantitative programs. At the Bridge School of Management, I taught business analytics, modeling methods, and analytics communication in programs delivered in collaboration with Northwestern University School of Professional Studies. I also taught at the University of Delhi, where I offered courses in statistics, econometrics, data mining, time series analysis, and statistical computing. These experiences strengthened my ability to present technically rigorous material in ways that emphasize interpretation, communication, and actionable insights for decision-making contexts.

Earlier, as an instructor with Johns Hopkins University's Center for Talented Youth, I taught advanced game theory and economics to high-achieving students, further refining my ability to design engaging and accessible learning experiences for diverse audiences.

Graduate Teaching Experience. As a Ph.D. student at Purdue University, I served as a Graduate Teaching Assistant in optimization, probability, economic decision-making, and first-year engineering. I led recitations, facilitated review sessions, prepared instructional materials, and supported assessment and student learning. I also served as a Graduate Recitation Instructor for calculus, developing clear and effective approaches to explaining foundational mathematical concepts.

Mentoring Experience. Mentoring is a core component of my teaching identity. At Illinois, I mentor undergraduate, M.S., and Ph.D. students through research advising, independent study, and structured mentoring programs. I lead a research group where students work on problems in algorithms, networks, artificial intelligence, and data-driven decision-making, resulting in publications, open-source contributions, and long-term research projects. I also participate in undergraduate mentoring initiatives, meeting with students to discuss academic progress, course planning, and career development across industry, graduate study, and academia.

These regular interactions allow me to support students holistically, particularly those navigating large programs or considering interdisciplinary pathways. At Purdue, I mentored undergraduate researchers in influence maximization and analytics-driven systems, and served as a mentor in the GradTrack program, supporting students from underrepresented backgrounds in preparing for graduate study.

Recognition for Teaching and Mentoring. My commitment to teaching and mentoring has been recognized through institutional awards. At the University of Illinois Urbana–Champaign, I received the *Stanley H. Pierce Award* and the *Engineering Council Outstanding Advisor Award*. I also received the *Graduate Mentor Award* from Purdue University and the *Faculty Excellence Award* from the Bridge School of Management. These recognitions reflect a sustained commitment to teaching and mentoring excellence.

Summary and Teaching Vision. I am comfortable teaching a broad range of courses spanning data science, business analytics, machine learning, artificial intelligence, probability, statistics, optimization, and data-driven decision-making. My teaching experience spans engineering, computing, business-oriented programs, and economics, across undergraduate, graduate, and professional learners. My goal is to help students build strong conceptual foundations while developing the ability to use data and analytical tools to make informed decisions in complex, uncertain environments. I am committed to refining my pedagogy, integrating emerging technologies responsibly, and contributing to learning environments where students are challenged, supported, and prepared to apply analytical thinking in real-world settings.