

Teaching Statement

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I believe students learn best when they can see, build, and experiment with the ideas they are learning. Abstract concepts become meaningful when students connect them to real systems, data, and decisions. My teaching philosophy is shaped by my experience as a Lecturer, where I independently taught core courses such as Programming, Data Structures and Algorithms, and advanced courses including Software Engineering, Object-Oriented Analysis and Design, and Artificial Intelligence. As a Teaching Assistant at UNR, I supported courses in Analysis of Algorithms, Machine Learning, Large Language Models (LLMs), and Multimodal AI, while also serving as a lab instructor for the Programming for Data Science course. Across these settings, I observed that students engage more deeply and retain concepts longer when theory is consistently tied to implementation and real-world application.

In my courses, I emphasize active, hands-on learning. I integrate short coding exercises, visual explanations, and demonstrations that show how components interact within larger systems, whether in an algorithm, a neural network, or a simulation environment. I use collaborative problem-solving and structured group activities to surface misconceptions early and encourage peer learning. Courses also include term-long projects that allow students to progressively connect theory to a coherent final system. For example, in an Object-Oriented Analysis and Design course, students carried a single project from requirements analysis through UML modeling and design patterns, gaining insight into how design decisions affect real systems.

I have taught and mentored students across the full academic spectrum, including first-generation, working, and nontraditional students, as well as highly motivated and advanced learners. To support this range of preparation, I use transparent course organization, clearly stated expectations, and scaffolded assignments that allow students to build skills incrementally. Early, low-stakes assessments help identify students who need additional support, while optional extensions and deeper problem sets provide appropriate challenge for advanced students. This structure allows students to progress at different paces while working toward the same core learning objectives. My instructional approach is grounded in transparent expectations, structured support, and equitable access to research participation, particularly for first-generation and working students.

Because my research spans autonomous systems, simulation-driven AI, and biomedical image analysis, I regularly use interdisciplinary examples to demonstrate how core computing and AI principles generalize across domains. In AI and machine learning courses, I connect learning algorithms to examples from retinal image analysis and compare intent prediction in autonomous agents with anomaly detection in biomedical data to highlight shared modeling challenges. These examples help students understand how technical methods transfer across applications and how modeling choices affect system behavior and performance.

I view teaching as a dialogue rather than a one-way transfer of information. I encourage students to articulate their reasoning, question assumptions, and compare alternative solutions, allowing me to adapt lectures in real time and support diverse learning styles. I am attentive to the varied academic and cultural backgrounds students bring to the classroom and work to create an inclusive learning environment through transparent assessment criteria, structured feedback, and multiple forms of engagement. Outside the classroom, I prioritize accessibility through office hours and individual meetings, helping students address conceptual challenges, refine project ideas, and build confidence as independent thinkers.

Mentoring is a central component of my teaching. I have supervised undergraduate capstone projects as a Lecturer and mentored interdisciplinary teams of undergraduate and master's students in both academic and industry settings. In these roles, I guided students through AI system design, experimentation, and model evaluation in collaborative environments. My mentoring emphasizes early engagement, structured goal-setting, and regular feedback, supporting students in developing strong technical foundations, completing

applied projects, and preparing for graduate study or industry careers.

In addition to contributing to core undergraduate and graduate offerings, I am interested in developing advanced elective courses that draw directly from my research while remaining accessible to students with diverse backgrounds and interests. One course I envision is *Plan, Activity, Intent, and Goal Recognition*, an interdisciplinary elective examining recognition problems across assistive technologies, computer vision, multi-agent systems, security, and human–AI collaboration. Students will engage with probabilistic, temporal, and learning-based models and complete a project designing and evaluating a recognition module for an application of their choice. The course emphasizes model comparison, evaluation under uncertainty, and responsible system design, helping students connect core AI methods to real-world contexts.

I am prepared to contribute broadly to undergraduate and graduate instruction. At the undergraduate level, I can teach programming, data structures, algorithms, artificial intelligence, machine learning, and introductory data science. At the graduate level, I am prepared to teach machine learning, applied AI, computer vision, and advanced topics in temporal modeling and intelligent decision-making. I am comfortable teaching in face-to-face and online formats and maintaining rigor through clearly scoped projects, structured assessments, and consistent feedback.

I also incorporate modern research tools into my teaching. Simulation environments allow students to experiment with AI agents in realistic virtual settings and connect theory to system-level behavior. Case studies from autonomous systems, smart mobility, and biomedical AI expose students to real-world constraints and current research and industry practices.

As an educator, my goal is to help students build strong conceptual foundations while understanding how those ideas translate into systems with real-world impact. I view teaching and research mentorship as mutually reinforcing and am committed to inclusive, rigorous, and student-centered computing education.