

Xiya Zhou

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Education

University of Florida (UF) - Gainesville, FL

December 2025

Bachelor of Science, Major in Electrical Engineering, Minors in CS and Math

GPA: 4.0/4.0

- **Relevant Coursework:** Digital Logic and Computer Systems, Signals and Systems, Fourier Analysis, Data Structures and Algorithms, Fundamentals of Machine Learning, Data Science, Circuits I & II, Solid State Devices

Research Experience

Undergraduate Research Assistant (Professor Philip Feng)

October 2022 - Present

- Research focus on Microelectromechanical Systems (MEMS), Semiconductor Materials, and Novel Computing Paradigms
- Presented on industry leading research papers in weekly journal club meetings, including topics such as in-memory computing and quantum-inspired computing
- Collaborating with graduate lab mentor to prototype a Reconfigurable Analog Ising machine

Undergraduate Research Assistant (Professor Mark Sheplak)

March 2024 - Present

- Research focus on Microelectromechanical Systems (MEMS), Electroacoustics, and Fluid Dynamics
- Collaborating with graduate lab mentor to design and test an Aeroacoustic MEMS Microphone

Iowa State University Research Internship (Professor Long Que)

May 2023 - August 2023

- Research focus on Microfluidic Devices, Biosensing, and Photonics
- Utilized COMSOL to design and test the functionality of microfluidic skin-on-chip devices, specifically an 80um chip incorporating laminar flow and multilayer structure to simulate exchange of nutrients to and from cells due to blood flow
- Gained experience modeling fluids in COMSOL and became acquainted with the process of soft lithography

Project Experience

Reconfigurable Analog Ising Machine

August 2023 - Present

- Assisting in the design and construction of a Reconfigurable RC Oscillator based Ising Machine, which uses hardware to directly model and solve NP-Hard Combinatorial Optimization Problems much faster than current software solutions
- Currently testing the performance of the Ising Machine in solving randomized Max-Cut problems, and formulating theory on how to model other NP-Hard problems like Travelling Salesman and Graph coloring

Aeroacoustic MEMS Microphone

March 2024 - Present

- Working alongside lab mates to design and construct a high-pressure, high-sensitivity MEMS microphone as part of a DARPA funded research project
- Responsible for the design and verification of the interface circuitry for the microphone and its output
- Currently evaluating the benefits/downsides of using a charge amplifier vs. voltage amplifier configuration for output data collection, with the primary goal of minimizing noise floor

Leadership Experience

UF Department of Electrical and Computer Engineering

August 2023 - Present

Teaching Assistant for Digital Logic and Circuits I

- Held lab sessions twice a week wherein I tested and debugged the students' Analog/Digital circuit designs
- Organized weekly meetings with other teaching assistants to discuss common pitfalls and develop strategies to improve overall student understanding of concepts in Digital Logic and Circuit Design

Eta Kappa Nu (HKN) Electrical Engineering Honor Society

December 2023 - Present

Outreach Chair

- Helped organize over 100 hours of community service, partnering with local libraries and middle schools to introduce students to basic circuit design
- Attended biweekly meetings with leadership of other Electrical Engineering organizations to come up with initiatives to increase students' interest in STEM

Skills

Programming Languages: Python, C++, Java, MATLAB, VHDL, ARM

Software: COMSOL Multiphysics, Quartus Prime, LTSpice, SolidWorks