Zhiyun Yu

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University at Buffalo, The State University of New York August 2020 – May 2025
B.S. Electrical Engineering Buffalo, NY

- A-/A Courses: Digital Principle, Applied Probability, Applied Electromagnetics and 5 others.
- Undergraduate/Graduate course crosslisted: EE441: Machine Learning over Wireless Edge Network, MTH448: Data-Oriented Computing, EE450: Broadband Access Networks

University at Buffalo, The State University of New York August, 2025 – June, 2026 (Expected)
Master of Electrical Engineering Buffalo, NY

- Courses: Quantum Mechanics for Engineer, Special Topics: Convex Optimization, Special Topics: Machine Learning

Course Project

EAS 230LLB - Engineering Computations July 2022 – August 2024
University at Buffalo Buffalo, NY

- Utilize the MATLAB on a remote robot in Torque Calculation. Designed a vector calculations in the end of the first quarter.

EAS 240LEC - Introduction to Programming for Engineers July 2022 – May 2022
University at Buffalo

- Implemented a remote control system of a robot dog.

EE 305LEC - Applied Probability Aug 2023 – December 2023
University at Buffalo

- Worked a project exploring the Markov Chain in the music theory discipline achieved by MATLAB.

EE 379LLB - Embedded Sys & Appl January 2024 – May 2024
Snake Game Project University at Buffalo

- Worked as a group on Embedded System in Verilog on **Zybo Z7 platform**, individually worked on the infra-red transmitter interface.
- Worked on a snake game in Verilog, with USB port display.

EE 441LEC AA: Special Topics August 2024 – December 2024
Machine Learning over Wireless Edge Network University at Buffalo

- **Project 1:** Familiar with some basic concepts in machine learning (e.g., convex/non-convex loss functions, smoothness and strong convexity properties, stochastic gradient descent, and convergence analysis).
- **Project 2:** Server-based and serverless distributed machine learning simulated techniques and the impact of edge device heterogeneity (e.g., in terms of communication, computation, and proximity) on the performance of distributed machine learning methods.

Skills

Programming Languages: C/C++, Python (Numpy, Pandas, Scientific Compution), MATLAB, conda, Ubuntu 24.04 env
Tech Skills: CMOS Logic, Circuit Analysis, Electromagnetics, VLSI Design, Data Analysts, Machine Learning Algorithm

Senior Design Capstone

EE494SEM - Senior Design Capstone Jan 2025 - Present
BuffaloBytes - Disaster Response Drone Swarm University at Buffalo

- Designed and implemented a network server using **Raspberry Pi 5** to facilitate real-time data transmission from multiple sensors in a disaster response drone swarm.
- Integrated facial recognition algorithms to identify and locate disaster victims, enhancing rescue mission efficiency and effectiveness.
- Developed communication protocols enabling reliable data transfer between drone-mounted sensors and the central command system in disaster environments with limited connectivity.
- Redesigned electrical circuits for censors in independent power supply.