Aditya Gupta

+1 630-401-7653 | oneadigupta@outlook.com | linkedin.com/in/oneadigupta | adigupta.me

Education

The Ohio State University GPA: 3.8/4.0
Bachelor's of Science, Computer Engineering *Aug 2024 — May 2028*
- Relevant Classes: Discrete Structures & Algorithms, Digital Logic, Software Engineering, Linear Algebra.

Work Experience

The Ohio State University Columbus, OH
Teaching Assistant for Realtime Robotics (ECE/ME 5463) *Aug 2025 — Present*
ECE Capstone Design Mentor (ECE 3906) *Aug 2025 — Present*
- Teaching 100+ undergraduate and graduate students ROS2, robot simulation, and computer vision concepts.
- Developed new programming projects, guides, and rubrics to modernize and improve course curriculum.

AndyMark Inc. Kokomo, IN
Engineering Intern *May 2025 — July 2025*
- Drove 20+ robot components through the full design cycle: modeling in Solidworks, rapid prototyping (FDM printing, CNC routing), performance/fatigue testing, design iteration, drawing for manufacture, and production sample validation.
- Several components, including a new product line, are slated for mass production and retail sale.

Extracurricular Activities

OSU Underwater Robotics Team, *Autonomy Lead* Aug 2024 — Present
- Developing a modular behavior tree system for finite state machine autonomy and a GUI for tree creation/debugging.
- Implementing YOLO models in stereo vision systems for SLAM, providing independence from expensive sensors.
- Created physically and visually realistic water environments in NVIDIA Isaac Sim for vision model evaluation.
- Contributed to the team's 2nd place award for design documentation at RoboSub 2025 by producing a strategy video.

Embedded Security Club @ OSU, *eCTF Blue Team* Aug 2024 — Present
- Competed in the 2025 MITRE eCTF, placing 8th overall. Designed secure communication using Salsa20 stream cipher for low overhead symmetric encryption. Implemented in Zig for built-in memory safety and compatibility with C code.

FIRST Robotics Competition Team 8096, *Team Captain, Mechanical Lead* Sept 2020 — May 2024
- Led and organized 30+ members in 4 subteams to design, build, program, and compete at an international level.
- Won 6 design awards for both mechanical and software subsystems. Ranked top 10 in the state for 2 years in a row.

Projects

Inventory Tracker | *Flutter, Python, KiCAD, Onshape, Figma* April 2025
- Modeled, built, and programmed an IoT pad with RFID and load sensors that uploaded data to a NoSQL cloud database.
- Designed a PCB in KiCAD that connected i2C and power to multiple sensors. Prototyped using a perfboard.
- Used Flutter to create a progressive cross-platform cloud integrated web-app for user-friendly monitoring and management.
- Awarded 2nd place out of 400+ projects in an engineering product design competition.

Nand2Tetris | *Python, Java, HDL, Assembly* Jan 2024 — April 2024
- Implemented a simulated 16-bit Von Neumann CPU and its subcomponents in simplified HDL starting from NAND gates.
- Programmed a recursive descent compiler for a high-level OOP language, translating source code through a custom stack-based virtual machine and assembler.

ARM CPU Design | *SystemVerilog, ARM, IcarusVerilog* Nov 2025 — Present
- Self taught and researched computer architecture to implement a single cycle 32-bit ARM CPU in SystemVerilog and verified it with self checking C++ and SystemVerilog test benches simulated with IcarusVerilog and Verilator.

Skills

Programming Languages: C, C++, Python, MATLAB, Java, Flutter/Dart, Zig, AstroJS, ARM, SystemVerilog
Tools: ROS2, Docker, NVIDIA Isaac, YOLO, Figma, CAD (Solidworks, Onshape, KiCAD), Quartus, Linux, Git, Blender