XINRONG ZHU

xinrongzhu27@gmail.com | linkedin.com/in/xinrongzhu/

EDUCATION

Cornell University, College of Engineering, Ithaca, NY Expected May 2027
Bachelor of Science in Electrical and Computer Engineering, Minor in Robotics
Relevant Coursework: Circuits, Digital Logic and Computer Organization, Nanoscience and Nanotechnology (TA)
GPA: 3.84/4.0

TECHNICAL EXPERIENCE

Robotics Developer, Cornell Cup Robotics, Ithaca, NY Jan 2025 - Present
- Advance the Experimental Robotics Platform (XRP), a modular snap-fit robotics education kit for nationwide deployment, by prototyping custom classroom-ready mechanical design, such as BB-8 robot and robot dogs, using Fusion 360 and 3d printing
- Design and integrate electrical systems for a Bluetooth-controlled Baby Yoda robot with Arduino and ESP32 microcontrollers and Dynamixel motors on a custom perfboard
- Train and mentor new members in machining, Fusion 360, assembly, troubleshooting printers, and design considerations such as compliance, print-in-place features, and 3D printing tolerances

Electrical Subteam Engineer, Liquid Propulsion at Cornell, Ithaca, NY Sep 2024 - Present
- Designed a LoRa-based communication system for rocket GSE, integrating SPI interfaces to enable real-time telemetry between launch and control
- Create PCB design for the LoRa-based communication system using KiCad
- Manufacture structural components for the rocket using CNC milling and lathe operations

Undergraduate Student Researcher, Space Systems Design Studio, Ithaca, NY May 2025 – Present
- Conceive and prototype a deployer for chip satellites mounted on an RC aircraft for testing using 3d printing
- Redesign chip-satellite V2 PCB layouts and schematics for improved compatibility with the deployment mechanism and payload constraints
- Conduct flight tests and document performance data, collaborating with graduate researchers to refine reliability

Product Development Intern, StemChef, Pleasanton, CA Jun 2023 – May 2024
- Invented and programmed interactive escape room puzzles using Arduino, incorporating RFID readers, magnetic locks, solenoid actuators, touch sensors, and more
- Prototyped, tested, and iterated mechanisms, optimizing performance, user experience, and safety for end users
- Assembled and reinforced puzzles with soldering and hand tools to withstand high-frequency customer use

LEADERSHIP EXPERIENCE

Captain, VEX Robotics Team 1516B & President, Robotics Club, San Ramon, CA Oct 2021 – May 2024
- Led and mentored a 7-member VEX team, achieving record success with 3 state qualifications (2022–24)
- Designed and built competition robots (drivetrains, lifts, launchers) and improved documentation workflows
- Directed the high school robotics club, developing curricula for beginner programs in robot construction
- Organized robotics camps for middle school students, securing $8000+ funding while introducing robotics

PROJECTS

FPGA Door-Monitor System *(Video)* Ithaca, NY
- Developed a Verilog FPGA embedded system with 50+ hardware modules that interfaces with a LiDAR distance sensor to detect motion, drive a buzzer, and maintain a counter of detections for ece2300 at Cornell University

SKILLS

Languages: English (native), Chinese (Native)
Programming & Hardware Design: Python, Java, C++, HTML/CSS/JavaScript, Verilog, KiCad, LTSpice
CAD & Fabrication: Fusion 360, 3D Printing, CNC (Lathe, Mill, Drill Press), Soldering, AutoCAD
Lab & Tools: Oscilloscope, Multimeter, Power Supplies, Microsoft Office, Git/GitHub, VS Code