

Zidane Karim

New York, NY | (347) 261-3557 | zidane.karim@cooper.edu | linkedin.com/in/zidanekarim

EDUCATION

The Cooper Union for the Advancement of Science and Art

New York, NY

Master of Engineering (M.Eng.) in Electrical Engineering (Computer Engineering & AI Focus)

Expected May 2028

Bachelor of Engineering (B.E.) in Electrical Engineering

Aug 2024 – May 2028

- **Cumulative GPA:** 3.6/4.0 | **Honors:** Dr. Max Solomon Shapiro Scholarship Award, Innovator Scholarship
- **Relevant Coursework:** Cloud Computing, Deep Learning, Operating Systems, Computer Architecture, Data Structures
- **Activities:** IEEE Vice President, Autonomy Lab Firmware Team, Resident Assistant

WORK EXPERIENCE

Eos Energy Enterprises

Pittsburgh, PA

Software Engineer Intern

June 2026 – Aug 2026

- Designed an aggregated battery-management-system (BMS) simulation platform for testing and high-frequency time-series telemetry analysis across 1,000+ energy storage assets.
- Built a performant, reproducible Rust, Python, Docker, and Nix application stack supporting containerized microservices, REST APIs, automated unit/integration testing, and CI/CD workflows in an Agile environment.

The Cooper Union

New York, NY

Director, Systems Administrator

Sept 2024 – Present

- Administer 50+ Linux workstations and lab systems, troubleshooting hardware, networking, role-based authentication, storage, and software infrastructure.
- Deploy and maintain HPC/GPU infrastructure and RESTful API gateways for self-hosted LLM inference using NVIDIA GPUs and vLLM, including containerization, monitoring, and performance tuning.
- Manage self-hosted Git services, CI/CD infrastructure, relational databases, and networked systems using Linux, Docker, Kubernetes, Nix, Forgejo/Gitea, and Ansible.

The Cooper Union

New York, NY

Computer Architecture Teaching Assistant & Tutor

Jan 2026 – Present

- Mentor undergraduate engineering students on instruction set architecture (ISA), datapath design, pipelining, memory hierarchies, and RTL debugging in SystemVerilog.

National Science Foundation (REU)

Geneva, NY

Undergraduate Student Research Intern

June 2025 – Aug 2025

- Investigated microplastic degradation in synthetic fibers, writing Python scripts for experimental data preparation, statistical analysis, and technical documentation.

PROJECTS

AI-Enabled WiFi Sensing & Classification Pipeline | *Python, Deep Learning, USRP B210 SDR*

- Developed an end-to-end data preparation and machine learning pipeline that ingests raw RF time-series signal data and trains neural networks for real-time object and motion classification.

Cache-Money | *Python, SystemVerilog, Automated Testing*

- Designed a 32-bit MIPS-based CPU in SystemVerilog alongside a custom assembler written in Python with exception handling and automated unit verification, implementing R/I/J-type instructions, custom datapath, and ALU logic.

Prom Ticket Service | *REST APIs, Authentication, Full-Stack Web*

- Developed a full-stack web platform and REST API with token-based authentication to generate and validate secure QR code tickets, drastically lowering event costs.

StuyCompare | *Node.js, Express, REST APIs, NoSQL*

- Built a schedule-comparison web application and RESTful backend API in Node.js and Express supporting 3,200+ students and faculty, designing database schemas and query logic.

TECHNICAL SKILLS

Languages: Python, Rust, SQL, C, C++, JavaScript, Java, SystemVerilog, Bash, MATLAB, PHP, HTML

Backend, Data & AI: REST APIs, Flask, Relational Databases (PostgreSQL/SQL), NoSQL, Time-Series Data & Telemetry, Machine Learning, LLM Deployment (vLLM)

DevOps & Infrastructure: Linux (Rocky, Ubuntu, Debian, Arch), Docker, Kubernetes, CI/CD, Git, Ansible, Nix, Networking, HPC Clusters, Slurm

Hardware & Embedded: Embedded Systems, RTL Design, FPGA, SDR, Oscilloscope