Edmond Wong

Software Engineer

edmondwongny@gmail.com
https://edmond120.github.io
https://github.com/Edmond120

TECHNICAL SKILLS

Programming Languages: Rust, C, C++, Python, Elixir, Java, Javascript, Prolog, Lisp, SQL
Web Frameworks: Node.js, Express.js, Flask, Tailwind, Phoenix Liveview, Tokio + Axum
Database Management: PostgresSQL, SQLite, MySQL, MongoDB
Robotics: IsaacLab, IsaacSim, Omniverse, ROS
Machine learning: PyTorch, Jax, Reinforcement learning
Software Technologies: Git/GitHub, Linux System Administration, Docker, Ansible, Embedded Systems
Others: 3D printing, CNC milling, CAD/CAM, Design for manufacturing, Technical drawing, Electronics, STM32, Arduino

Experience

Robotics research intern - NYU **2025 - Present**

- Re-designed and built an open-sourced controller from the ground up for robot arm teleoperation. The controller is a scaled down version of the robot arm, with 6 degrees of freedom, allowing the user to visualize the joint locations as they are controlling the robot.
- Integrated the controller with IsaacSim and ROS to control simulated robots.
- Modified robot arm asset files to deploy a specific robot into IsaacLab and debugged physics simulation issues.
- Create new simulation environments for teleoperation based data gathering.
- Debugged and built Docker containers for robot simulations.

TECHNICAL PROJECTS

DIY CPU | *Technologies: C/C++, Arduino, Electrical test equipment, Integrated circuits*

- Built a CPU using discrete transistors and basic integrated circuits, achieving a clock speed of ~100kHz with 256 bytes of memory.
- Developed an Arduino-based interface for program uploads and integrated nixie tubes for output display.
- Diagnosed and resolved complex hardware issues by systematically isolating modules, performing instrumentation, and conducting thorough testing.
- Gained hands-on expertise in computer architecture, low-level systems, and hardware debugging.

CPU Emulator in Python | *Technologies: Python*

- Developed a Python-based CPU emulator capable of executing a simplified machine code instruction set.
- Implemented memory-mapped I/O to enable graphical output, utilizing Python's Turtle graphics to render images.

Server Rack Deployment | *Technologies: Python, Ansible, Docker, Linux*

- Designed and deployed a six-server system for self-hosting various services such as: Git, Email, Automated backups, Distributed Compilation, Samba (Windows network file system), Linux package mirrors (Gentoo), Chatbots.
- Automated server provisioning, configuration, and maintenance using Ansible, ensuring consistency, reduced manual overhead, and enforced a single source of truth.
- Implemented containerized applications with Docker, improving scalability and reproducibility.
- Configured Linux-based networking, including firewall rules, Dynamic DNS, and VPN setup for secure remote access.
- Developed expertise in system administration, infrastructure as code (IaC), and cloud-native practices.

Education

Bachelor of Science, Brooklyn College, CUNY **Graduation: June 2023**
Major: Computer Science

- **Relevant Coursework**: Principles of Robotics, Discrete Structures, Data Structures, Analysis of Algorithms, Database Systems, Object-oriented Programming, Operating Systems, Web Development and Design, Theoretical Comp. Sci.
- **Graph Theory Research:** Built utilities in C and Python to profile and count graphs for research.