Raymond Chi

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Education

The Cooper Union for the Advancement of Science and Art Sept 2021 – May 2025

Bachelor of Engineering in Electrical Engineering; Minor in Computer Science.

Relevant Coursework: Hardware Design, Computer Architecture, App Development, Digital Signal Processing, Electronics, Data Structure and Algorithms, Communication Theory, Communication Networks, Software Engineering, Natural Language Processing

Skills

Languages: Python, C, C++, MATLAB, Verilog, HTML, PostgresSQL, Shell Script, VHDL, Javascript, MySQL, Java, Typescript
Technologies: Docker, DBeaver, Microcontrollers, Jenkins, Ceph, React-Native, React, Spring API, Azure, GitHub, Wireshark
Hardware: LT Spice, AMD Vivado Design Suite, FPGA, Cadence Virtuoso, Logisim-evolution
Other skills: Digital and Analog Circuit, ABB Robotics, Wiring, Soldering, Oscilloscope

Experience

Software Engineer Intern, Ambedded Technology Co., Ltd. Taipei, Taiwan Jul 2023 – Sep 2023

- Conducted FIO test on Jenkins, to find optimal throughput of cores-to-driver ratio for Ceph storage ARM-based cluster.
- Enhanced FIO script for multiple test runs; Developed Linux network latency tests for cluster assessment.
- Improved Ceph storage read/write latency by 10% through tuning Linux network's sysctl parameters.
- Analyzed latency and runtime data to fine-tune system parameters, optimizing performance and creating visual reports.
- Explored DPDK, an open-source solution, to elevate network latency performance.

Global Innovation Program Researcher, La Trobe University Australia & Bosnia May 2023 – June 2023

- Conducted research by applying design thinking and prototyping, and produce conference-level paper to attempt solving air pollution| **Link**
- Presented research at 9th International Conference on "New Technologies, Development and Application."
- Attended DKR industrial robotics training through coding ABB robots for task automation. | **Link**

Summer Tech Intern, Kingstone Taiwan Ltd Taipei, Taiwan June 2022 – Aug 2022

- Conducted quality control of telecommunications products alongside with professional engineers.
- Gained expertise in configuring telecommunications systems, mastering operational mechanics.
- Managed company documents and datasheets, including translating from English to Mandarin, to increase efficiency.
- Assembled and repurposed computer components, optimizing hardware use and resource efficiency.

Ecolibrium Project Tech Team Member, Loisiada Inc. | Link New York, NY Dec 2021 - May 2022

- Implemeted Arduino and Raspberry Pi for real-life environmental sensor readings.
- Created a Dockerized PostgreSQL database for received sensor readings and scripted data visualization.
- Presented the environmental monitoring solutions to the community for awareness.
- Conducted Linux OS boot-up on mini-PC, for a server-like hub to microcontrollers to collect data.

Projects

Full stack iOS mobile application, Nexus | Link

- Developing a networking application using react native, encompassing functionalities like discovery, job application, connecting and real-life chat.

Targeted performance MOS differential amplifier with Layout

- Used Candance Virtuoso to build a differential amplifier that reaches certain performance with power consumption limit.

Theremin | Link

- Built a Theremin with envelop detector, op amps, high/low pass filters, and coupling capacitors to play musical notes via hand gestures.

MIPS 32-bit computer | Link

- MIPS 32-bit computer project is coded with Verilog and assembly using a mixture of gate logic and behavioral following the MIPS 32-bit computer design.

Founding member, Multi-Use Data-acquisition Bio-Unit Group | Link

- Created a network system with raspberry pi that records the data on cloud base server.
- Developed App to display the sensor data from ESP32.

Additional Projects: Image display (VGA) on FPGA, Implementing CPU on FPGA, Digital/Analog Filter Design, Active Mixer, Colpitts oscillator, Decision Theory Simulation, Wired tic tac toe.

Activities and Awards

VIP: Drones, The Cooper Union: Dynamics and Control Lab Jan 2023 – May 2023

- Operating the drones with Vicon camera system and program with python for the directions of the drones

LVE: Crew Member, Cooper Union Motorsports club Sept 2021 – June 2022

- Low voltage electronics group who handled sensors readings, display and sensor testing with Arduino.

Scholar Athlete, Cooper Union school team Sept 2021 – Present

- Cooper Union Official Soccer team: starting defender.

ABB robotics certificate DKR – German Center for Robotic Issued June 2023