

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

GPA: 3.4

Relevant Coursework: Hardware Design, Computer Architecture, App Development, Frequentist ML, Operating System, Data Structure and Algorithms, Speech and Audio Processing, Communication Networks, Software Engineering, NLP

Skills

Languages: Python, C, C++, MATLAB, Verilog, HTML, PostgreSQL, Shell Script, VHDL, Javascript, MySQL, Java, Typescript

Technologies: Docker, React-Native, React, Spring Boot, Azure, Git, Flask, Kubernetes, RestAPI, Django, FPGA, MongoDB

Frameworks: NumPy, Tensorflow, Sci-kit Learn, Pandas, NLTK, BeautifulSoup, Selenium, opensmile, Whisper

Experience

Software Engineer Intern, Global Key Solutions New York, NY

June 2024 – Present

- Developed a LangChain-powered chatbot using RAG and SQL/PGQ, automating data retrieval and enhancing reliability.
- Designed MySQL tables and APIs, decreasing downtime by 90% and assist data migration for 200% database expansion.
- Automated PDF OCR extraction, streamlining workflows and increasing processed data volume by 25%.
- Built a periodic web scraper with BeautifulSoup and Selenium, updating 3,000 entries in the production database.
- Contributed to Agile weekly sprints with Jira, ensuring continuous delivery and team collaboration.

Instructor, BlueStamp Engineering New York, NY

May 2023 – June 2023

- Led 20 students in IoT projects with microcontrollers, achieving 95% completion rate and 100% positive feedback.
- Guided 5 autonomous robotics projects, achieving average 85% object detection accuracy, using OpenCV.
- Directed Flask-controlled robotics projects, emphasizing the integration of web interfaces in IoT solutions.
- Mentored students on UART, GPIO, I2C, and ADC, resulting in 100% successful IoT project completions.

Software Engineer Intern, Ambedded Technology Co., Ltd. Taipei, Taiwan

Jul 2023 – Sep 2023

- Optimized Ceph storage on ARM-based Mars500 clusters, improving read/write latency by 10% via sysctl tuning.
- Conducted CPU scaling tests on ARM v8 cores, determining optimal core-to-OSD ratios for cluster efficiency.
- Developed and executed FIO tests using Jenkins to analyze performance across various core-to-OSD ratios.
- Created detailed performance reports, including IOPS and throughput analyses, guiding system optimization decisions.
- Explored DPDK implementation to enhance network latency performance in ARM-based storage systems.

IoT Engineering Intern, Loisiada Inc. | [Link](#) New York, NY

Dec 2021 - May 2022

- Deployed over 40 Arduino and Raspberry Pi remote sensing units to monitor urban microclimates.
- Implemented Raspberry Pi Edge Gateways for real-time data aggregation and processing.
- Developed a Dockerized PostgreSQL database for efficient sensor data storage and visualization.
- Engineered a Linux-based mini-PC hub for reliable data collection and seamless system integration.

Projects

Pfizer Digital Hackathon, 2nd Place Winner, CUCU - Mental Health Platform | [Link](#)

- Developed a mood-classification algorithm and journaling tool for NYC public high school students, connecting them to licensed social workers to address mental health inequities in underserved communities.

Alzheimer's Early Detection via Audio Processing, CUSAP

- Developing an automated cognitive decline detection system using multi-modal analysis of spontaneous speech for ICASSP 2025's PROGRESS Challenge.

NLP Project Developer, Language Detection and Sentiment Analysis | [Link](#)

- Developed and compared FNN and CNN models using TensorFlow and Keras for language detection, achieving up to 97.2% accuracy with TF-IDF embeddings, and implemented sentiment analysis using CardiffNLP's Twitter models.

Full stack iOS mobile application, Nexus | [Link](#)

- Developed a networking application using React Native, featuring advanced discovery filtering with API integration, seamless match making system, and real-time chat functionality utilizing WebSockets.

Additional Projects: Full stack school newsletter website, MIPS 32-bit computer on FPGA, Image display (VGA) on FPGA, Text Categorization using Naïve Bayes, Gate level wired tic tac toe game.

Activities and Awards

Awards: Full-tuition merit-based scholarship recipient; Selected for School Honors (2 semester)

VIP: Drones, The Cooper Union: Dynamics and Control Lab

Jan 2023 – May 2023

- Programmed drones with ROS and Python, utilizing the Vicon camera system for precise navigation and autonomous control in dynamic environments.

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.

ABB robotics certificate DKR – German Center for Robotic

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