RYAN MA

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EDUCATION

UC Berkeley — Bachelor of Arts, Computer Science — ~May 2024
Relevant courses: Data Structures, Artificial Intelligence, Microelectronics, Computer Security, Digital IC Design, Computer Systems and Architecture

GPA: 3.61

EXPERIENCE

Tecmend LLC – *Software Engineer;* Houston, TX — January 2021 – Present

- Streamlined the process of building custom API integrations for professional applications using **Django** and **MySQL**. Created automations that tripled the speed of development and saw a 100% increase in client return rate.
- Debugged, developed, and improved existing company software products including an LMS, sales analysis application, and manufacturing downtime calculator using **React/Django/GraphQL** in a fast-paced **agile** startup environment

Instapath Inc – *Software Engineer Intern;* Houston, TX — June 2022 – Present

- Developed Django API to view, process, share, and store Deep Zoom pathology images with **computer vision** annotations
- Incorporated a **multithreaded** CPU intensive processing and image tiling process with 90% speedup from previous software
- Created an automated **CI/CD** deployment system for the webapp using **Docker**, Linode, GitHub actions, **AWS**, and **Nginx**

ACTIVITIES/TEACHING

IEEE Berkeley Student Branch – *Officer* — Fall 2021 – Present

- Revamped and rebuilt the organization-wide Startup Fair website using React, **Node**, and **MongoDB**
- Led student projects and taught GitHub development flows, basic **MERN** application design, and software development

EECS 16A – *Lab ASE, Course Staff* — Fall 2022

- Helped teach lab sections, attend weekly trainings, and check students' work at the end of lab
- Developed course lab materials. Created and brought-up new lab procedures involving basic circuit design and linear algebra

Computer Science Mentors – *CS61A Junior/Associate Mentor* — Fall 2021 – Present

- Taught hour-long adjunct discussions twice per week and developed slide decks and review worksheets

CS61B: Data Structures – *Lab Assistant* — Spring 2022

- Assisted students in completing lab assignments and provide conceptual help during project office hours alongside other TAs

PROJECTS

Three-Stage Pipelined RISC-V CPU – *EECS 151: Digital Design and Integrated Circuits* — Fall 2022

- Designed and built a three-stage pipelined **RV32I CPU** in Verilog. Programmed on Xilinx PYNQ-Z1 **FPGA** and reached 60 MHz.
- Implemented a branch predictor with a direct-mapped cache and saturating counter. Created pipeline with ALU-ALU, MEM-ALU forwarding, efficient branch flushing, and no stalled cycles. Implemented **UART** ready-valid handshake.

Handheld Game Console – *EE198: Hands on PCB Engineering* — Spring 2022

- Designed and routed the **PCB** for a simple handheld game console using KiCad. Soldered and tested final PCB design
- Programmed the **ESP32** using C and wrote a basic version of Pong to interact with GPIO pins and the LCD screen

S1XT33N Voice-Activated Car – *EECS16B: Designing Information Devices and Systems II* — Spring 2022

- Built voice-activated car with low-pass filter, power regulation circuits, feedback control, and **k-means** voice classification
- Designed and tuned a joystick controlled reversible motor system using H-bridges and programmed the logic on a MSP430

Gitlet – *CS61B: Data Structures* — Fall 2021

- Implemented a Java-based version control system using knowledge of **OOP**, **graphs**, and **data serialization**

On the Fly POS Connector – *Tecmend LLC* — Summer 2021

- Developed a custom integration for client API and QuickBooks Online API and created a user dashboard to view linked data
- Created a **SSO** system between client application, QuickBooks, and the connector's app dashboard with QuickBooks **OAuth**

Senmonni – *Tecmend LLC* — Spring 2021

- Engineered a MERN e-wallet MVP for client in Belize and learned basic full stack development with MERN and React Native
- Developed a customer-facing API with token authentication, CSRF prevention, KYC, and secure banking APIs

ADDITIONAL INFORMATION

Programming Languages (years of experience)**:** Java (6), Python (5), JavaScript (4), RISC-V (1), C (1), Verilog (1), Golang, Scheme
Technologies: Windows, Linux, Firebase, Git, MongoDB, MySQL, GraphQL, Django, APIs, Docker, AWS, React/Nodejs, FPGA
Languages: Fluent in English and Mandarin
GitHub: @goblinrum. Private share links to projects will be provided upon request.
Work Eligibility: Eligible to work in the U.S. with no restrictions