

# RYAN MA

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## EDUCATION

<b>UC Berkeley</b>	Bachelor of Arts, Computer Science Relevant courses: Data Structures, Artificial Intelligence, Microelectronics, Computer Security, Digital IC Design, Computer Systems and Architecture	~May 2024
<b>GPA: 3.63</b>		

## EXPERIENCE

<b>Tecmend LLC</b> – <i>Software Engineer</i> ; Houston, TX	January 2021 – Present
<ul style="list-style-type: none"><li>Streamlined the process of building custom API integrations for professional applications using Django and MySQL.</li><li>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</li></ul>	
<b>Instapath Inc</b> – <i>Software Engineer Intern</i> ; Houston, TX	June 2022 – Present
<ul style="list-style-type: none"><li>Developed Django API to view, process, share, and store Deep Zoom pathology images with computer vision annotations</li><li>Incorporated a multithreaded CPU intensive processing and image tiling process with 90% speedup from previous software</li><li>Created an automated deployment system for the webapp using Docker, Linode, GitHub actions, and Nginx</li></ul>	

## ACTIVITIES/TEACHING

<b>IEEE Berkeley Student Branch</b> – <i>Officer</i>	Fall 2021 – Present
<ul style="list-style-type: none"><li>Revamped and rebuilt the organization-wide Startup Fair website using React, Node, and MongoDB</li><li>Led student projects and taught GitHub development flows, basic MERN application design, and software development</li></ul>	
<b>EECS 16A</b> – <i>Lab ASE, Course Staff</i>	Fall 2022
<ul style="list-style-type: none"><li>Helped teach lab sections, attend weekly trainings, and check students' work at the end of lab</li><li>Developed course lab materials. Created and brought-up new lab procedures involving basic circuit design and linear algebra</li></ul>	
<b>Computer Science Mentors</b> – <i>CS61A Junior/Associate Mentor</i>	Fall 2021 – Present
<ul style="list-style-type: none"><li>Taught hour-long adjunct discussions twice per week and developed slide decks and review worksheets</li></ul>	
<b>CS61B: Data Structures</b> – <i>Lab Assistant</i>	Spring 2022
<ul style="list-style-type: none"><li>Assisted students in completing lab assignments and provide conceptual help during project office hours alongside other TAs</li></ul>	

## PROJECTS

<b>Three-Stage Pipelined RISC-V CPU</b> – <i>EECS 151: Digital Design and Integrated Circuits</i>	Spring 2022
<ul style="list-style-type: none"><li>Designed and built a three-stage pipelined RV32I CPU in Verilog. Programmed on Xilinx PYNQ-Z1 FPGA and reached 60 MHz.</li><li>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.</li></ul>	
<b>Handheld Game Console</b> – <i>EE198: Hands on PCB Engineering</i>	Spring 2022
<ul style="list-style-type: none"><li>Designed and routed the PCB for a simple handheld game console using KiCad. Soldered and tested final PCB design</li><li>Programmed the ESP32 using C and wrote a basic version of Pong to interact with GPIO pins and the LCD screen</li></ul>	
<b>S1XT33N Voice-Activated Car</b> – <i>EECS16B: Designing Information Devices and Systems II</i>	Spring 2022
<ul style="list-style-type: none"><li>Built voice-activated car with low-pass filter, power regulation circuits, feedback control, and k-means voice classification</li><li>Designed and tuned a joystick controlled reversible motor system using H-bridges and programmed the logic on a MSP430</li></ul>	
<b>Gitlet</b> – <i>CS61B: Data Structures</i>	Fall 2021
<ul style="list-style-type: none"><li>Implemented a Java-based version control system using knowledge of OOP, graphs, and data serialization</li></ul>	
<b>On the Fly POS Connector</b> – <i>Tecmend LLC</i>	Summer 2021
<ul style="list-style-type: none"><li>Developed a custom integration for client API and QuickBooks Online API and created a user dashboard to view linked data</li><li>Created a SSO system between client application, QuickBooks, and the connector's app dashboard with QuickBooks OAuth</li></ul>	
<b>Senmonni</b> – <i>Tecmend LLC</i>	Spring 2021
<ul style="list-style-type: none"><li>Engineered a MERN e-wallet MVP for client in Belize and learned basic full stack development with MERN and React Native</li><li>Developed a customer-facing API with token authentication, CSRF prevention, and other security measures in mind</li></ul>	

## 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