ANDREW SHIEH

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EDUCATION

University of California, Berkeley — **Berkeley, CA**
B.S. Electrical Engineering and Computer Science — *Expected May 2022*

- **Cumulative GPA:** 3.7/4.0; **Major GPA:** 3.9/4.0
- **Relevant Coursework:** Algorithms, Computer Architecture, Computer Networking, Data Structures, Discrete Mathematics and Probability, Information Devices and Systems, Linear Algebra and Differential Equations, Artificial Intelligence (in progress), Operating Systems (in progress), Principles of Data Science (in progress)

EXPERIENCE

UC Berkeley College of Engineering — **Berkeley, CA**
Course Tutor, CS 61A — *Aug 2020 – Present*

- Leading weekly 20 person tutorials and 150+ person office hours for a 2000+ person computer science course
- Teaching effective utilization of core programming concepts (e.g. recursion) with personalized student support

Roblox — **San Mateo, CA**
Software Engineering Intern — *Jun 2020 – Aug 2020*

- Backend development on the infrastructure services team for telemetry of Roblox Cloud Services servers
- Built a highly available pod-level monitoring and alerting system for thousands of servers across 20+ PoPs
- Leveraged Docker, Chef, Prometheus, Kafka, and Grafana to collect, send, and visualize TBs of server metrics

vArmour — **Mountain View, CA**
Software Engineering Intern — *Jun 2018 – Aug 2018*

- Created Azure virtual network watcher and developed program to quickly retrieve and normalize flow logs
- Developed a Python SDK to wrap a RESTful API and wrote 800+ unit test scripts, reaching full code coverage
- Implemented customer-facing product connectivity detection program, saving 10+ hours of troubleshooting

SELECTED PROJECTS

Beehive (Ruby on Rails, PostgreSQL, Docker) — *Sep 2020 – Present*

- Developing a web application to match undergraduates with research positions, with over 10000+ lifetime users
- Revamping user profile builder and resume parser and creating a project matching notification system

NumC Computing Library (C++, Python) — *Mar 2020 – Apr 2020*

- Wrote a NumPy-like matrix math library in C++ and created a Python interface by leveraging the Python/C API
- Optimized the naive implementation using performance programming techniques (SIMD and OpenMP) to achieve an 85x+ overall speedup and 1670x+ matrix powering speedup

Modern Web Application (Python, Flask, AWS) — *Dec 2019 – Jan 2020*

- Built web application with dynamic content loading from AWS DynamoDB with a Fargate microservice
- Created user registration and authentication using AWS Cognito to analyze user behavior

Mini Maps (Java) — *Sep 2019 – Oct 2019*

- Implemented backend for Google Maps-like web application with image rastering, location name searching, destination routing, and turn-by-turn navigation
- Leveraged A* algorithm to optimize shortest path searching using data from the OpenStreetMap project

SKILLS & INTERESTS

Languages/Technologies: Proficient in Python, Java, C/C++; familiar with Javascript (React, Node.js), SQL; previously used Ruby, NumPy, Pandas. Experienced with Git, AWS, Azure, Docker, Unix/Linux, MERN stacks.

Activities: Computer Science Mentors (led weekly group tutoring classes for intro CS course), Demystifying Data (data science industry forum), Alpha Kappa Psi (business fraternity), Taiwanese American Student Association

Interests: Tennis, backpacking, Golden State Warriors, electronic dance music, mechanical keyboards, eating ramen