Hannah S. Oh

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Education

University of California, Berkeley **Electrical Engineering and Computer Science, BS**
Aug 2020 - May 2023
Coursework: Operating Systems, Algorithms, Data Structures, Machine Structures, Database Systems, AI, Linux SysAdmin DeCal, Discrete Mathematics, Designing Information Devices and Systems

Experience

Production Engineer Intern **Facebook**
Jun 2021 - Aug 2021 Menlo Park, CA (Remote)
- Implemented relative computing resource units for future use in server inventory management systems
- Refactored scheduler to be cross-compatible with capacity requests of different resource types
- Created alerts and detectors to monitor invalid resource configurations

Academic Course Staff **UC Berkeley EECS Department**
Jan 2021 - Current Berkeley, CA
- Reinforce student knowledge of machine architecture, high-level language support, and operating systems (I/O, interrupts, memory management, process switching) as a member of course staff
- Led weekly reviews for students; focus on conceptual application through projects, homework, and labs

Projects

Addepar EntitySearch Sept 2021
- Created an automatic cloud deployment of AWS OpenSearch, using its REST API for queries and uploads
- Developed a scalable search endpoint used in workflows in AMP for clients to handle large number of nodes
- Implemented a front end to input EntitySearch queries and display results using React and Springboot

NumC April 2021
- Developed a Python array-processing API written in C mimicking NumPy functionalities
- Implemented multi-threading, SIMD, loop unrolling, and blocking to optimize matrix arithmetic
- Achieved 90x speedup for matrix multiplication and 1000x speedup for matrix powering

Gitlet March 2021
- Built a custom version control system in Java from scratch, mimicking git
- Wrote a breadth-first search algorithm to detect split points in commit history for correct branch merging
- Functionality includes init, add, commit, rm, log, global-log, find, status, checkout, branch, merge, reset, etc.

Classify Feb 2021
- Wrote RISC-V assembly code to run a simple Artificial Neural Network (ANN) on a RISC-V simulator
- Implemented basic operations including vector dot product and matrix multiplication using assembly code
- Loaded a pretrained ANN and executed it to classify handwritten digits from the MNIST benchmark set

Awards

Presidential Scholars Program Nominee, Jan 2020
National Merit Scholarship, Feb 2020
The President's Volunteer Service Award, Nov 2019
FUHSD Community Service Award, May 2020

Skills

Technical: Rust, Java, C, Python, RISC-V, SQL, LaTeX, Lisp, React
Tools: Vim, Git, Mercurial, Terraform, Bash, Eclipse, IntelliJ, Spring Boot
Languages: English (native), Korean (native), Spanish (elementary)