Max Kim

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Education

University of California, Berkeley | **Berkeley, CA** Aug. 2019 – May 2023

B.A. - Computer Science *Cumulative GPA: 3.73*

Coursework: Software Engineering, Computer Security, Data Structures & Algorithms, Computer Architecture, Structure & Interpretation of Computer Programs, Discrete Mathematics & Probability Theory, Multivariable Calculus, Principles & Techniques of Data Science, Artificial Intelligence, Natural Language Processing, Linear Algebra & Differential Equations

Technical Skills

Languages: Python, Java, TypeScript/JavaScript, Golang, C, Ruby, SQL, HTML/CSS, RISC-V, Scheme
Technologies: ReactJS, NodeJS, Jest/Mocha/Sinon, React Testing Library, JUnit, Pandas, NumPy, Figma, Git, AWS

Experience

Software Development Engineer Intern May 2022 – August 2022

Amazon Web Services *Seattle, CA*

- Developed & deployed a serverless & scalable end-to-end web app to production hosted on an internal domain & authenticated with midway that automates & manages the entire pipeline for dynamic UI components to be displayed onto existing and new AWS Partner Services using **ReactJS, Redux, NodeJS, Java, Typescript, Figma, AWS CDK, Lambda, Cognito, DDB, S3, CF Signer, API GW**
- Accelerated the manual onboarding process by **12x** and wrote unit tests & integration tests for frontend and backend packages with **100%** line and branch coverage using **Jest, Mocha, Sinon,** & **React Testing Library**

Course Staff Intern | **Data Structures & Algorithms (CS61B)** Jan. 2022 – Dec. 2022

UC Berkeley Electrical Engineering & Computer Sciences (EECS) *Berkeley, CA*

- Facilitated labs & office hours by helping students with assignments in **Java**, fixing bugs & making adjustments to class projects, & holding conceptual presentations on DSA topics for a class of **1600+** students

Undergraduate Research Apprenticeship Jan. 2022 – June 2022

University of California, San Francisco *San Francisco, CA*

- Developed backend of dashboard for primary care clinicians using **ReactJS** & **D3JS** with **Smart on FHIR API**
- Collaborated with researchers at Berkeley Institute for Data Science (BIDS) and clinicians at UCSF to automatically process, aggregate, and display important patient medical record data in one place

Data Science Intern Jan. 2022 – Mar. 2022

Willow Labs *San Francisco, CA*

- Validated performance and generalization capabilities of the Willow Risk API neural network model for stakeholders with hypothesis testing & stratified sampling using **GCP** & **SQL**
- Conducted **EDA** to identify gaps between sampled points and existing Willow training/validation/testing datasets

Projects

Mini Git | *Java, JUnit*

- Created a version-control system mimicking features of **Git** such as init, add, commit, merge, branch, & checkout
- Wrote a design document and designed more features such as viewing the history of backups, maintaining sequences of saved contents, and merging changes made in one sequence into another; tested with unit & integration tests

NumC | *C, Intel AVX Intrinsics, OpenMP*

- Created a mini version of the python library **NumPy** but with vectorized and multithreaded inputs for matrix operations; optimized matrix multiplication with cache blocking & multithreading for **65x** more speedup
- Implemented fast matrix powering algorithm with loop unrolling for **1000x** more speedup in **O(log(n))**

Dropbox Lite | *Golang*

- Designed & developed an end-to-end encrypted file sharing system with secure user authentication and features such as saving, loading, overwriting, appending, sharing, and revoking access to files
- Utilized **HMAC** to maintain integrity of files, **Argon2** to prevent brute-force attacks on user authentication, **RSA-OEAP** for public key encryption, **AES-CTR mode** to ensure confidentiality of files, **digital signatures** for authenticity of files, and other SOA cryptographic algorithms
- Wrote an extensive design document and tested client application API functionalities with basic and fuzz testing