Saransh Saini

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EDUCATION

University of California, Berkeley · GPA: 3.8 — **Berkeley, CA**
B.A. Computer Science — *Class of 2024*
· Courses: Data Structures, Software Engineering Principles, Efficient Algorithms, Computer Architecture, Operating Systems, Computer Security

PROFESSIONAL EXPERIENCE

Capital One — **San Francisco, CA**
Software Engineering Intern — *June 2022 · August 2022*
· Incoming software engineering intern working with Golang and security.

NASA Jet Propulsion Laboratory — **Pasadena, CA**
Software Engineering Intern — *January 2022 · May 2022*
· Built a custom version control system custom tailored to the requirements of the lab. Allows the user to linking libraries and modules together without having to think about the underlying git internals.
· Designed an API with Node.js to allow seamless access to the lab's database, abstracting away the need to connect to the database and then write queries directly whenever accessing the database.
· Overhauled multiple outdated internal testing and performance catalogue sites, transitioning from basic HTML to React.js

The NeuroBat Lab — **Berkeley, CA**
Machine Learning Apprentice — *September 2021 · January 2022*
· Designed neural networks to understand the nuances and meaning behind vocalization patterns in the Egyptian fruit bat.
· Researched the feature spaces and ML models that can best classify the behavior of bats based solely off the sounds they make in real time.
· Collaborated with lab bioengineers and neuroscientists to verify validity of ML insights, iteratively tweaking model parameters in response.

Quiver Quantitative — **Milwaukee, WI**
Software Engineering Intern — *October 2020 · April 2021*
· Independently built multiple data gathering and cleaning scripts in Python that would later become the first version of the core Python library used by the company.
· Optimized API logic by incorporating Python Collections and data structures to reduce the number of API calls needed to fuel the dashboards the company creates.
· Built a database using the Stack Overflow API to present trends in tech popularity amongst developers.

IEEE Berkeley — **Berkeley, CA**
Software Developer — *September 2020 · May 2021*
· Kickstarted the development of an enhanced web version of a Pictionary-like game in the projects team at IEEE Berkeley.
· Brainstorm, planned, and collaborated with a team of students to iteratively improve upon the existing UI and codebase, ultimately writing cleaner, more functional code.
· Focused on understanding the interplay between user-facing components and backend networking that creates seamless multiplayer experiences.

PROJECTS

Piano Typer — *In Progress*
· Incorporated the built-in browser MIDIAccess API with React to create a simple plug-and-play interface, allowing anyone to connect their piano to a computer and independently learn foundational piano skills.
· Allows one to learn the keys on a piano the same way typing websites teach you the letters on the keyboard.
· Continuously planning advancements that will increase utility (adding chords, scales, and virtual keyboard support is on the horizon).

PintOS — *April 2022*
· Created an educational operating system, complete with multi-threading, file systems, and the ability to run user programs.
· Implemented syscalls, memory management, and synchronization to create a robust system.
· Augmented team-based work skills by learning how to seamlessly create a large system with teammates.

Gitlet — *February 2021*
· Recreated the Git version control system entirely from scratch in Java to better understand Git and application planning.
· Implemented all core features (add, commit, merge, reset, push, pull, fetch, checkout, branch).
· Optimized file reading, writing and storage using serialization, hashing, and the File system

MERN Geolocation App — *December 2020*
· Social media web app that allows for users to share places with friends using MongoDB, Node, Express, and React.js.
· Connected to the Google API and Firebase to provide full location and authentication services.
· Fortified my ability to program large applications with many working parts, while also augmenting my understanding of database integration, user experience, and authentication

SKILLS

Languages: Python · Java · SQL · Golang · JavaScript · C · C++
Stack: Numpy · Pandas · React.js · MongoDB