Arnav Nepal

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EDUCATION

University of California, Santa Cruz   Santa Cruz, CA
Bachelor of Science in Computer Science   *Aug. 2021 – present*
- Current Student | 3.5 GPA

TECHNICAL SKILLS

Languages: C, C++, Python, HTML/CSS, JavaScript, TypeScript, Go
Frameworks: React, Next.js, Express, PostgreSQL, gin, SQLX
Developer Tools: Docker, AWS, Oracle Cloud, Excel, Jest, Puppeteer

EXPERIENCE / PROJECTS

Arsenal Biosciences, Inc. Project | *Company Sponsored Project*   Jan 2025 – Present
- Developed a full stack web application to track the lineage and evolution of chemical and biological samples within laboratory microplates in order to aid cancer research
- Utilized Next.js and Material UI to build a intuitive and responsive UI with continuous input from Scientists and Users
- Worked in a team of 10, taking leadership as a Scrum Master to drive team meetings, keep the team on track, and resolve issues and blockers that arose during the development process
- Developed a backend in Go, utilizing gin for routing, and SQLX for interactions and management of a PostgreSQL database
- Worked On Core application features, including defining the database schema, developing an administrative portal to manage user permissions, and visualization of experiment lineages on a interactive, responsive graph

SlugSync | *Social Media Web App Team Project*   Apr 2024 - July 2024
- Worked alongside a team to develop a full stack web application, building a task management application with social features for group driven motivation
- Utilized a modern Web Development stack consisting of React, Express, Node, and PostgreSQL
- Achieved 100% test coverage across the entire codebase using Jest and Puppeteer, gaining extensive knowledge in testing web applications
- Primarily worked on Testing and Frontend development, creating and designing the UI for the primary dashboard and homepage

HTTP server | *Computer Systems Design Course*   Sep 2023 – Dec 2023
- Implemented a working basic HTTP server from scratch
- Utilized low-level Input/Output functions to perform buffered I/O and preserve memory efficiency
- Continuously built and upgraded the server over time by adding support for multi-threading and caching
- Made use of mutual exclusion primitives to securely implement multi-threading

COURSEWORK

Relevant Coursework | *University of California, Santa Cruz*
- Computer Architecture and Assembly, Principles of Computer Systems Design, Discrete Math, Computational Models, Analysis of Algorithms, Full Stack Web Development, Distributed Systems, Computer Graphics, Natural Language Processing, Computer Networking, Database Systems