Janani Sundarram

Irvine, California • jsundarr@uci.edu

Education

UNIVERSITY OF CALIFORNIA, IRVINE   Irvine, California
Bachelor of Science in Software Engineering   Sep 2021 - Jun 2025

Relevant coursework: Data Structures and Algorithms, Database Management, Compilers and Interpreters, Operating Systems, Information Retrieval, Concepts of Programming Languages

Experience

FULL-STACK DEVELOPER (Part-Time)   Dec 2024 - Present
Boomerang Learning

- Built robust back-end systems using Python, SQL, and the MERN stack to support application development.
- Integrated cloud solutions with Microsoft Azure for efficient data management and processing.
- Fine-tuned AI models and conducted prompt engineering to enhance system intelligence and functionality.

SOFTWARE ENGINEERING INTERN (Internship)   July 2024 - Sep 2024
ExoSystems

- Collaborated with a team to work on various components of a cryptocurrency application including creating functionality to allow users to set up individual digital Web3 wallets and using blockchain technologies to help users login without a traditional username password system.
- Helped design and implement the frontend of the application using NuxtJS.

SOFTWARE DEVELOPMENT INTERN (Internship)   Jun 2023 - Sep 2023
Netesenz Inc

- Wrote and debugged code in Python, JavaScript, and HTML/CSS for software applications, modules, and features.
- Conducted research on technologies, frameworks, or tools relevant to ongoing projects.
- Participated in team meetings, stand-ups, and brainstorming sessions.

Projects

CRUX COMPILER (Dec 2024 - Present)

- Designed and implemented a compiler for the Crux programming language using Java, including lexical analysis, parsing, semantic analysis, and code generation.
- Built an abstract syntax tree (AST) and implemented error-checking mechanisms to ensure syntactic and semantic correctness.
- Translated Crux programs into low-level intermediate representations, enabling execution on a target virtual machine.

INDEPENDENT SEARCH ENGINE (Dec 2023 - Feb 2024)

- Developed a scalable Python-based search engine to efficiently index and search large volumes of documents in under 100 ms while ensuring content uniqueness through use of MinHashing and Locality Sensitive Hashing algorithms.
- Integrated a partial indexing system to manage term frequencies and document metadata, writing partial indices to disk to handle large datasets.

JOB BOARD APPLICATION (Dec 2023 - March 2024)

- Developed a dynamic job board web application to facilitate job seekers in searching for jobs, creating personalized profiles, and applying for jobs seamlessly.
- Designed and implemented the front-end interface using React, CSS, and JavaScript, focusing on responsiveness and user interaction.
- Developed the back-end functionality using Node.js including user authentication, job posting, and search functionality.

ExtraCurriculars

CARETECH @ UCI: As project committee head, I led a team of 3 to develop tech-driven solutions addressing healthcare challenges and conducted research on emerging healthcare technologies.