Divya Agarwal

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Summary

Passionate Software Engineer with robust experience in full software development cycles and CI/CD environments, adept at transforming technical concepts into scalable solutions. Proven ability to analyze, design, and develop complex systems, with a strong background in distributed computing, microservices, and modern web technologies.

Education

University of Michigan **May 2025**

Bachelor of Science, Computer Science and Economics
- **GPA:** 3.9
- **Achievements:** University Honors, James B Angell Scholar

Employment

Cisco **May 2024 - Jul 2024**

Software Engineering Intern *San Jose, CA*
- Developed a proof-of-concept chat-bot using object-oriented programming (Java, Go, Python) and a comprehensive API endpoint database to deliver rapid, complex query responses, enhancing customer experience on Cisco 'Nexus Dashboard'
- Decomposed chat-bot into service-oriented architecture with two core servers, containerized with Docker, which ensured scalable integration and rapid responses across diverse environments, adhering to clean coding practices throughout development
- Collaborated cross-functionally with product managers, senior engineers, and UI/UX teams to thoroughly understand customer requirements and product limitations for eventual MVP development.

Cisco **Sep 2024 - Dec 2024**

Software Engineering Intern *San Jose, CA*
- Transformed the proof-of-concept chat-bot into a minimum viable product, integrated it with the customer-facing Nexus Dashboard, and deployed it as a microservice via Kubernetes, showcasing the ability to integrate scalable solutions
- Implemented robust AI security measures and guardrails, aligning with industry compliance, while resolving defects and optimizing code quality to secure client data.
- Streamlined platform navigation by optimizing pages and menus, improving user interactions by approximately 30% and enhancing product usability

Projects

MapReduce Framework and Scalable Search Engine
- Engineered a fault-tolerant, multi-process, multi-threaded MapReduce server using socket programming (TCP/UDP), demonstrating expertise in system stability and distributed computing principles akin to Hadoop and Spark.
- Developed a scalable search engine leveraging information retrieval (TF-IDF, PageRank) and parallel data processing with MapReduce, showcasing a solid understanding of algorithms and data structures for large-scale systems

Instagram Clone
- Built a full-stack web application with server-side dynamic pages using React, demonstrating experience in developing large-scale web applications.
- Gained experience with asynchronous programming and REST API integration in client-side JavaScript applications.
- Implemented robust backend functionality using Flask and MySQL in Python, complementing front-end with Jinja-integrated HTML templates.

Leadership

Cantor Coding and Trading **Jul 2023 - May 2025**

Vice President of Professional Development
- Engaged with top recruiters for quantitative finance and software engineering to increase interest in the club and help members in securing internships
- Worked with organizational infrastructure such as Agile practices, CI/CD workflows, core repositories, and Git. Learnt how to effectively work with several project teams at once to maximize efficiency

Skills

- **Programming Languages**: C++, C, Python, JAVA, Go
- **Web Technologies**: HTML, JavaScript, CSS, React, Flask, REST APIs
- **Databases**: MySQL, SQL, MongoDB
- **Tools/Concepts**: Git, Kubernetes, Docker, Microservices, CI/CD, Data Structures and Algorithms, Object-Oriented Programming, System Design