DIVYA AGARWAL

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EDUCATION

University of Michigan | Ann Arbor, MI **Graduating May 2025**

Degree: Bachelor of Science in Computer Science and Economics **GPA:** 3.9

Awards: University Honors, James B Angell Scholar

Relevant coursework: Data Structures and Algorithms, Web Systems, Computer Organization, Human-Centered Software Development, Database Management Systems, Game Theory, Linear Algebra, Corporate Finance

EMPLOYMENT

SWE Technical Intern I | Cisco Systems, Inc. **May 2024 - Jul 2024**

- Developed a proof-of-concept for a chat-bot leveraging GPT-4o-mini and OpenAI embedding models to support Retrieval Augmented Generation (RAG) capabilities on Cisco 'Nexus Dashboard', a platform for customers to monitor data centers.
- Utilized Java, Go, and Python to train a large language model (LLM) on a comprehensive database of API endpoint and platform documentation, enabling the resolution of complex and multi-part queries and maintaining conversation history.
- Abstracted the chat-bot's functionality into two core servers and utilized Docker for containerization, ensuring seamless integration and migration across various environments as well as rapid responses from the chat bot.

SWE Technical Intern I | Cisco Systems, Inc. **Aug 2024 - Dec 2024**

- Transitioned the chat-bot from a proof-of-concept to a minimum viable product (MVP), integrating it with the customer-facing Nexus Dashboard. Gained proficiency in packaging and deploying this as a microservice using Kubernetes.
- Investigated and implemented AI security measures to protect client data within the chat-bot, including developing guardrails to minimize LLM hallucinations, thereby ensuring a safer and more reliable user experience.
- Streamlined platform navigation by reducing the number of pages and menus needed to complete tasks, resulting in a nearly 30% decrease in abandoned sessions and significantly improving overall product usability.

PROJECTS

Daily Journaling App

- Built a platform that provides daily journaling prompts for users based on different topics using React and Python
- Made use of BERT for sentiment analysis to provide users with an insight into the overall tone of their journal entries over time as well as how other users' sentiment analysis compare on that topic

MapReduce Framework and Scalable Search Engine

- Used socket programming, TCP and UDP protocols to implement a single machine, multi-process, multi-threaded MapReduce server and incorporated fault-tolerance methods to ensure smooth running of the server.
- Developed a scalable search engine akin to Google or Bing, leveraging information retrieval techniques such as text analysis (TF-IDF) and link analysis (PageRank), supported by parallel data processing with MapReduce.

Instagram Clone

- Built a full-stack web application similar to Instagram, implemented with server-side dynamic pages using React
- Gained experience with building client applications in JavaScript that use asynchronous programming by making AJAX calls to the REST API
- Supplemented the front-end features with Jinja-integrated HTML templates, implemented the back-end functionality by integrating Flask and MySQL in Python and created shell scripts for quick start-up of the application

LEADERSHIP

Cantor Coding and Trading - Vice President of Professional Development **July 2023 - Present**

- 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

C++, C, Python, JAVA, HTML, JavaScript, CSS, STATA, Git, MySQL, React, REST APIs, Flask, Kubernetes, Go