Grace G. Liu

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EDUCATION

University of Michigan - Ann Arbor   **Ann Arbor, MI**
B.S. in Computer Science   *June 2023*
- **Relevant Coursework:** Data Structures and Algorithms, Database Management Systems, Web Systems, User Interface Development, Intro to Computer Security, and Mobile Application Development for Entrepreneurs

SKILLS

- **Languages:** C++/C, Python, JavaScript, HTML/CSS, SQL, Golang
- **Frameworks/Libraries:** React, Flask, REST API
- **Technologies:** Linux, Git, Figma, Docker, AWS EC2 Instances, MapReduce

PROJECTS

Instagram Web Clone

Python (Flask), JavaScript, HTML/CSS, SQLite, React   *September – October 2022*
- Built a full-stack Instagram web clone with React frontend interacting via AJAX with Flask REST API backend; enabled dynamic UI features like infinite scroll and double-click to like.
- Developed Flask server app with CRUD operations for posts, comments, and likes stored in SQLite database; implemented user authentication and sessions.
- Created a responsive client-side UI using React framework and React Hooks for state management.
- Deployed to Amazon Web Services using EC2, Gunicorn for server-side dynamic pages, and Nginx for static pages server.

Search Engine

Python (Flask), JavaScript, HTML/CSS, SQL, React   *November – December 2022*
- Developed a scalable search engine utilizing tf-idf text analysis and PageRank link analysis to display accurate and relevant search results in a Google-like UI.
- Implemented a pipeline of MapReduce programs to create a segmented inverted index of web pages, ensuring efficient indexing and retrieval of data.
- Created a user-friendly search interface with server-side rendering, making REST API calls to retrieve and display the top 10 most relevant results for user queries, enabling fast lookups.

Projects++

Figma   *October – December 2022*
- Identified a gap in students' career exploration by analyzing seven interviews, leading to the conceptualization and proposal of an app that assists students in exploring diverse career paths within the computer science field through a compilation of profession-specific projects.
- Collaborated with a team of five to design a functional prototype of the app using Figma, prioritizing intuitive user experience and seamless navigation.

WORK EXPERIENCE

Michigan Technological University – Brain Inspired AI Lab   **Houghton, MI**
Research Assistant Intern   *August 2023 – Present*
- Leverage advanced deep learning techniques through close collaboration with a cross-functional research team to achieve project objectives, applying closed-loop DBS technology to optimize energy efficiency and reduce side effects.
- Manage the server environment, overseeing user accounts, permissions, storage, and Python packages to support research workloads.

University of Michigan School of Public Health   **Ann Arbor, MI**
Information Technology Assistant   *September 2022 – August 2023*
- Updated event pages on the school's website, ensuring accuracy and timeliness of information.
- Contributed to building the faculty/staff section of the school website using Omni CMS, meticulously verifying the accuracy of data migration for a seamless transition.

University of Michigan College of Engineering   **Ann Arbor, MI**
Engineering Administration Computer Support   *May 2019 – August 2019*
- Delivered comprehensive Level 2 IT support to a diverse user base of 100+ administrative staff and faculty within the College of Engineering, demonstrating expertise in troubleshooting hardware and software issues.
- Diagnosed and resolved technical issues with PCs, Macs, mobile devices, printers, email, and software applications.