

Serena Gong

sxgong2@illinois.edu | github.com/syxr | www.serenaxgong.com | (217) 904-2971 | Champaign, Illinois

EDUCATION

University of Illinois at Urbana-Champaign

B.S. in *Computer Science and Astronomy* with *Statistics* Minor

- **Courses:** Software Design (Java/C++) | Data Structures (C++) | Computer Systems (C/Python) | Stats Programming (R) | Accessible Web Resolutions | Web Programming | Database Systems (SQL)

Champaign, IL
Graduating Dec 2024

WORK EXPERIENCE

Web Development Intern | *Rainforest Partnership*

- Partnered with UI/UX team on full cycle web projects to transform Figma prototypes to WCAG compliant HTML/CSS interfaces, deploying responsively via CMS based development framework
- Leveraged Google Analytics data to identify areas for SEO improvements, implementing on-page and off-page optimisations that increased user engagement metrics by 15% over a 2 month period

Austin, TX
Jul - Sep 2023

Teaching Assistant for Intro CS (124) & Discrete Structures (173) | *UIUC CS Department*

- Staffed office hours and online forum to help 900+ CS students master OOP principles in Java/Kotlin
- Mentored 10 students through development cycle of full-stack application in Android Studio, emphasizing clean code practices and error handling, resulting in improved app performance
- Facilitated weekly discussion sections of 30 students to enhance their understanding of key CS concepts in discrete math, such as recursion, trees, algorithms analysis and proof techniques

Champaign, IL
Jan 2021 - May 2022

INVOLVEMENT & ACTIVITIES

Software Engineer | *UIUC Caesar Research Lab*

- Utilising React.js and Chakra UI to revamp search interface, ensuring researches effectively locate papers within their domain, while facilitating web server deployment with Nginx and Docker
- Integrating retrieval-augmented generation by leveraging Large Language Models to ensure precise search across 150,000+ SIGCOMM publications, moving beyond traditional title/keyword matching

Champaign, IL
Oct 2023 - Present

Project Manager (ex. Machine Learning Developer, Feb-May 2023) | *UIUC Project:Code*

- Leading 7-member student team in Agile development cycles while working with Professor Angrave to implement new features for ClassTranscribe (classtranscribe.illinois.edu) using React/Javascript/Python
- Spearheading architecture and technical development of real-time, synchronized document-sharing system aimed to enhance collaborative learning experiences for hundreds of daily users
- Overseeing data integrity measures like algorithmic snapshots to mitigate unauthorised modifications

Champaign, IL
Sept 2023 - Present

PROJECTS

Recipes Aggregator and Reccomender | Python, HTML, Tailwind CSS

- Co-developed Django backend to integrate external API to aggregate recipes into a PostgreSQL database, and enhanced user experience by adding features like "favouriting", preference based filtering system, and personal recipe contribution
- Worked with design team to render elegant and responsive UI utilising HTML and TailwindCSS, optimising user engagement

Sticky Notes Task Manager | Python, React, Javascript

- Built fullstack React app emulating Confluence for dynamic task management like notes and to-do list modifications
- Leveraged Django and PostgreSQL in backend to enable user authentication and collaborative workspace functionalities

GAN-Based MNIST Digit Enhancement w Project:Code | PyTorch, Python

- Utilised PyTorch in team project to train CNN-based GAN on MNIST database to generate realistic handwritten digits
- Achieved 60% iteration reduction for legible digit outputs through architectural adjustments and hyperparameter tuning

Shortest Path Airport Route System | C++

- Implemented BFS and Dijkstra's algorithm to analyse OpenFlights dataset, identifying the shortest path between two airports
- Utilised Kosaraju's algorithm identify strongly connected airport components, providing insights into global airport efficiency

TECHNICAL SKILLS

- **Programming/DB:** Java, C++, C, Python, Javascript, HTML, CSS, R, SQL // MySQL, PostgreSQL
- **Frameworks/Libraries:** React.js, Flask, Bootstrap, Django, PyTorch, NumPy, Pandas
- **Tools:** VSCode, IntelliJ, Jupyter Notebook, Spyder, Eclipse, Docker (Containers), Git Version Control