Seung-Min Yu
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Education

University of Wisconsin-Madison Madison, WI
Bachelor of Science in Computer Science & Data Science *Expected Graduation 2026*

Experience

Software Engineer May. 2021 - Oct. 2023
MMT Prep. *Portland, OR*
- Created a full-stack web application that used Python, Streamlit, SQLite (migrated to MySQL), Material-UI, and Docker to allow questions to be categorized and used as data for labeling.
- Spent 450+ hours working with 30+ K-8 students to find common issues with learning and applied this knowledge to create a full-stack web application that innovated strategies for promoting academic interest.
- Contributed to publishing (ISBN-13: 979-8218956615) by developing quiz application and being the AI engineer for the question generation model.

Coding Instruction Intern Nov. 2021 - March. 2023
Code Ninjas *Tigard, OR*
- Passed in-person interview for internship. Completed Code Ninjas instructor's content and provided mentorship for 25+ students in Javascript and C++. Facilitated day-to-day operations including student content guidance, timely resolution of any issues, and technical support to faculty and students.

Team Lead 2021 - 2022
Computer Programming Club *Portland, OR*
- Team lead for a team of 8 members that participated in the Oregon Game Project Challenge. Managed team productivity and kept up with members. Group created and submitted an original Unity game to the Oregon Game Project Challenge competition.

Software Tech Lead 2020 - 2022
FIRST Robotics Competition *Portland, OR*
- Organized and managed GitHub repository for team robot code. Drafted and finalized timelines for necessary code while coordinating with other programmers to program functions/subfunctions of team robot. FRC Judges Award awarded to team efforts in 2022.
- Created robot vision filters in C using bitmaps to help with vision processing. Integrated common image filtering techniques such as spatial filters, linear filters, de-blurring, and more.

Congressional App Challenge Ambassador 2022 - 2023

Projects

AGS Math Worksheet (ericyu.dev). | *Python, JavaScript, Flask, React, MySQL, Ace* June 2020 – Present
- Developed a full stack app and built a computer algebra system due to math scarcity in school district. 70+ regular users. Auto-generate higher-level math problems/solutions, graphics, & word problems. Used in 2 high schools and 2 tutoring centers.
- Made dynamic generation of LaTeX formatted PDF worksheets containing auto-generated questions & answers; client-side rendered PDFs.
- Optimized how data through JSON was handled during LaTeX compilation/rendering, causing an 8-second LaTeX compilation optimization for an average of 100 problems & worksheet; current compilation and render time is an average of 3 seconds for worksheet of 100 problems & answer.
- Researched math theorems ranging from linear algebra to calculus and collaborated with math department to curate custom algorithms; packages used to accomplish this feat include: Sympy, Numpy, Scipy, Pandas

County Analysis | *Python, JavaScript Streamlit, GIS, React, Material-UI, Data Commons* Sep. 2022 - Present
- Started a data science project using statistical analysis of aggregated datasets (social indicators, Free Market Rents, & real estate trends) to generate preference-based residential real estate recommendations and county analysis.
- Utilized advanced geospatial analysis using location parameters to allow users to customize their recommendation feed of properties.

ScribblScan | *Python, Flask, IAM Handwriting* Sept. 2023 - Oct. 2023
- Custom fine-tuned Microsoft's TrOCR vision encoder & decoder model using the IAM Handwriting Dataset; Model achieved accuracy of 94.82%, training loss of 0.23, validation loss of 0.8, & character error rate of 8.6