Mason Zarns

github.com/zarns • 612.889.2131 • mason@zarns.net
linkedin.com/in/mason-zarns

EDUCATION

UNIVERSITY OF MINNESOTA
B.S. Computer Science
Minor in Chemistry
Dec 2022 | Minneapolis, MN
Cum. GPA: 3.5 / 4.0
Major GPA: 3.7 / 4.0

SKILLS

LANGUAGES

Java	Python
Kotlin	JavaScript
C/C++	TypeScript
SQL	Terraform
Rust	OCaml

TECHNOLOGY / TOOLS

AWS	Spring Boot
Docker	IntelliJ
Git	PyCharm
Jira	PyTorch
Colab	OpenCV

FAMILIAR

Linux	Windows
macOS	Agile

COURSEWORK

Software Engineering
Computer Vision
Machine Learning
Artificial Intelligence
Operating Systems
Functional Programming
Biomolecular Engineering
Data Mining

EXPERIENCE

CODE42 | Software Engineering Intern
May - Dec 2022 | Minneapolis, MN

- Designed and implemented production features to allow customers to change file retention policies and have those changes reflected across various AWS resources: DynamoDB, S3, Lambda, and ElastiCache
- Maintained and expanded RESTful APIs within a distributed cloud architecture capable of scaling to Petabyte/Day traffic, supporting millions of customer devices
- Automated setup/teardown of ephemeral testing environments, integrating Concourse, Docker, Terraform, and various AWS resources

COMPETITION

CODE42 HACKATHON
Aug 2022 | Minneapolis, MN

- Implemented archive file streaming tool to retrieve security-related metadata on compressed files
- Integrated tool into Code42 agent, exposing critical security information for risk analysis team
- Recognized by Distinguished SWE who congratulated us and promoted our solution to production within two weeks

OPEN MONKEY CHALLENGE
Sep - Dec 2022 | Minneapolis, MN

- Collaborated in a team of four to design, train, and submit modified CPM and U-Net Neural Net architectures to Primate Pose Estimation benchmark challenge

PROJECTS

GESTURE RECOGNITION | Webcam Utility
January 2023

Developed lightweight webcam utility to track hand gestures in real-time. Supports mouse control and macro commands. Leveraged open source libraries, MediaPipe and OpenCV

VOTING MACHINE | Instant Runoff Voting
Aug - Jan 2023

Implemented Spring Boot REST server using WebSockets and STOMP messaging to collect votes via browsers. Added visualization code to help users to understand the surprisingly elusive algorithm

MONTE CARLO TREE SEARCH AGENT | Board Game AI
Feb - Jul 2022

Implemented Monte Carlo Tree Search, Expectimax, Alpha-Beta Pruning and Min-Max algorithms in my favorite board game, Quoridor