Ajay Ganesh

Software Engineer
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Education

University of Michigan **Ann Arbor, MI**
Master of Science in Computer Science *Expected Graduation: May 2025*

University of Michigan **Ann Arbor, MI**
Bachelors of Science in Computer Science, 3.73 GPA *Expected Graduation: May 2024*

- **Course Highlights:** Algorithms and Data Structures, Web Systems, Operating Systems, Distributed Systems, Computer Security, Compiler Construction, Discrete Mathematics, Machine Learning and Practical Data Science

Technical Skills

Languages: Python, C++, Rust, Go, JavaScript/TypeScript, HTML/CSS, SQL
Technologies: React, MongoDB, PostgreSQL, Node.js, Git, Docker, Linux, AWS

Experience

Deepgram **Ann Arbor, MI**
Software Engineering Intern *May 2023 - Aug. 2023*

- Developed and deployed a Node.js backend service enabling speech recognition machine learning model usage on YouTube videos, used in a high-value client demo with potential revenue exceeding $100k
- Optimized code for a Rust web API handling authorization and billing for Deepgram's automatic speech recognition models, resulting in a 5 ms average decrease in response time and greater standardization of error messages
- Increased account signup conversions by 7% by implementing an IP caching system in Rust and deploying it to on-premises data centers, giving new users increased exposure to Deepgram's AI models

Riot Games **Ann Arbor, MI**
Student Security Engineer - UM MDP Program *Jan. 2023 - Present*

- Developed an extensible monitoring system using Python and Go to provide security engineers with real-time notifications for vulnerabilities in internal networks, contributing to increased operational efficiency
- Harnessed Amazon Web Services (Lambda, S3, CloudFormation) to create a deployment pipeline, allowing engineers to automatically deploy internal environment monitoring scripts in minutes
- Researched workflows with senior Information Security professionals to develop a continuous compliance dashboard in React, allowing executives to easily visualize the status of the organization's attack surface

CaringWire **Columbus, OH**
Software Engineering Intern *Nov. 2021 - May 2022*

- Collaborated with senior developers and interns in an Agile environment to make updates and improvements to a web platform using Scrum ideologies, improving user experience for hundreds of caretakers and families
- Implemented features such as an auto-logout system, a database search autocomplete feature, and a cloud upload system for medical data, achieving HIPAA compliance and increasing usability for elderly consumers
- Improved a search feature by implementing a MongoDB data aggregation pipeline using TypeScript, leading to a 75% increase in quantity of accurate results delivered to users

Personal Projects

Distributed Key-Value Database **Oct. 2023**

- Tech Stack: Go, RPCs, AWS
- Leveraged the Paxos consensus algorithm to create a sharded key-value store in Golang, ensuring high consistency, fault-tolerance, and load balancing; further optimized by reducing network communication and custom garbage collection

Network File System **April 2023**

- Tech Stack: C++, Make, AWS
- Instrumented a distributed file system to store and serve data to many concurrent users by harnessing low level Linux file storage concepts

C++ Thread Library **Jan. 2023**

- Tech Stack: C++, Make, POSIX Threads
- Architected and Implemented a thread library from scratch in C++ to allow for greater concurrency, including synchronization through primitives such as locks and condition variables