

Azaan Khalfe

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Education

Bachelor of Science in Computer Science - University of Washington

June 2024

Relevant Coursework:

Distributed Systems, Data Centers, Algorithms, Data Structures, Software Engineering, Systems Programming, Web Browser Engineering, Security, Databases, Operating Systems

Experience

Software Engineer | MAQ Software

October 2024 – Current

- Architected and implemented enterprise-grade backend systems, including a high-performance Azure Function App utilizing C#/.NET, featuring comprehensive asynchronous message processing with Azure Service Bus queues and Microsoft Dataverse SDK integration
- Engineered solutions with robust dependency injection patterns and extensive unit testing framework, achieving over 90% code coverage while implementing secure authentication through Azure Managed Identities
- Developed advanced logging, telemetry systems, and RESTful API integrations, leveraging Application Insights for detailed monitoring and performance optimization of backend services
- Gained hands-on experience with the Azure cloud ecosystem, leveraging its features to develop and optimize solutions while expanding expertise through practical learning and application

Teaching Assistant | University of Washington

April 2024 – June 2024

- Instructed 24+ students on web architecture fundamentals and browser engineering concepts
- Created technical learning materials and provided one-on-one mentoring during office hours
- Evaluated student assignments with a focus on code quality and architectural design principles

Projects

Distributed Systems Paxos Consensus Algorithm

- Designed and implemented a fault-tolerant distributed system using the Paxos consensus algorithm, ensuring consistency and replication across multiple nodes
- Developed code in Java to handle each phase of the algorithm and implemented communication protocols for nodes to reach a consensus
- Authored a comprehensive design document detailing the Paxos consensus algorithm, encompassing all associated states and high-level information to guide system-wide integration and optimization

NFL Fantasy Picker

- Developed a real-time Full Stack application using React, Node.js and Python, dynamically predicting the top ten starting players and updating scores based on real-time data.
- Constructed and maintained an SQL database housing comprehensive data on 50 NFL players, ensuring timely score updates and data integrity.

University of Washington Registration System

- Led backend development of a student registration platform using JavaScript and SQLite
- Implemented core features including waitlist management, course swapping, and professor rating system
- Established automated testing pipeline using GitHub Actions for CI/CD
- Designed RESTful APIs and database schema to support concurrent user operations
- Implemented tests for the backend and created YAML file to automate the tests with GitHub Actions using CI/CD so the tests

Technologies and Languages

- Python, Java, Go, JavaScript, C++, C#, SQL, HTML
- Git, GCP, Kubernetes, Docker, NPM, Unix, PostgreSQL, JDBC, Maven, YAML, AWS, Azure, Dotnet