Azaan Khalfe

azaankhalfe@gmail.com | linkedin.com/in/azaan-khalfe | azaankhalfe.netlify.app

Education

University of Washington Seattle, WA

Bachelor of Science in Computer Science *June 2024*

- **Relevant Coursework:** Distributed Systems, Algorithms, Data Structures, Software Engineering, Systems Programming, Databases, Operating Systems

Experience

Software Engineer Intern — Contractor October 2024 – January 2025

Microsoft *Redmond, WA*

- Architected and implemented enterprise-grade Azure Function Apps using C#/.NET with comprehensive asynchronous message processing, achieving 90%+ code coverage
- Developed high-performance RESTful APIs and telemetry systems leveraging Application Insights for monitoring and performance optimization of production backend services
- Engineered secure authentication through Azure Managed Identities and implemented robust dependency injection patterns following Microsoft development standards

Teaching Assistant April 2024 – June 2024

University of Washington *Seattle, WA*

- Instructed 24+ students weekly on web architecture fundamentals and browser engineering concepts over 10-week quarter
- Created 8+ technical learning materials and provided 6 hours of one-on-one mentoring per week during office hours
- Evaluated 200+ student assignments with focus on code quality and architectural design, maintaining 95% student satisfaction rate

Projects

LLM Multi-Model Chat System | *Python, PostgreSQL, Redis, Docker*

- Architected production-ready LLM chat application supporting 50+ concurrent users with multi-model orchestration (Ollama), achieving under 500ms first token latency and 100 req/min throughput
- Designed PostgreSQL persistence with JSONB, Redis caching, and Supabase OAuth2.0 authentication, handling 10x longer conversations through sliding window compression
- Built Prometheus/Grafana monitoring infrastructure and established CI/CD pipeline with 80% test coverage using pytest, reducing deployment time by 60%

Distributed Systems Paxos Consensus Algorithm | *Java*

- Designed and implemented fault-tolerant distributed system using Paxos consensus algorithm, ensuring consensus across 12+ nodes when majority are available under network partition scenarios
- Developed communication protocols in Java handling 1000+ messages per second and authored 15-page comprehensive design document detailing algorithm optimization

NFL Fantasy Picker | *React, Python, Flask, PostgreSQL, TimescaleDB*

- Architected multi-source data pipeline with automatic fallback orchestration (Sleeper API → ESPN API → web scraping), processing 11,400+ player records with rate limiting and 99% data integrity
- Designed PostgreSQL + TimescaleDB schema for time-series player statistics, enabling efficient queries across 17 weeks × 3 seasons of historical data
- Built automated data sync infrastructure using APScheduler, reducing manual intervention while maintaining weekly model retraining pipelines
- Implemented comprehensive test suite (104 tests across unit/integration/e2e) achieving 80%+ coverage with pytest, ensuring reliability across the full software lifecycle

Technical Skills

Languages: Python, Java, Go, JavaScript, C++, C#, SQL, HTML/CSS
Frameworks: React, Node.js, Flask, FastAPI, .NET, JUnit
Cloud/DevOps: AWS, Azure, GCP, Docker, Kubernetes, Git, CI/CD
Databases/Tools: PostgreSQL, Redis, MongoDB, Ollama, NPM, Unix
Monitoring: Prometheus, Grafana, Application Insights