

Joshua Schappel

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Summary

Senior Backend Software Engineer with experience designing scalable, fault-tolerant systems and AI-powered platforms. Proven track record of building high-throughput APIs, distributed job processing systems, and cloud infrastructure using AWS, Python, and Django. Strong background in system design, performance optimization, and mentoring engineers.

SKILLS

Languages: Python, TypeScript, JavaScript, Go, C++, Racket

Frameworks & Databases: Django, React, PostgreSQL, MySQL, Redis, GraphQL, gRPC

Infrastructure & DevOps: Terraform, Ansible, AWS (EC2, ECS, ASG), Docker, CI/CD (GitLab), Linux

Observability & Tools: Grafana, Prometheus, Structured Logging, Distributed Tracing

EXPERIENCE

Futuri Media LLC

Aug. 2023 – Apr. 2026

Senior Backend Software Engineer

Remote

- **Infrastructure Modernization:** Architected a total migration from manual AWS provisioning to a codified **Terraform and Ansible** stack. Reduced deployment times by **60% (from 10m to 3.5m)** and eliminated configuration drift across all production environments.
- **Beacon (Emergency Broadcast):** Engineered a mission-critical AI system using **Django and PostGIS** with an **Active-Passive multi-region failover** strategy. Maintained **99.9% uptime** over 12+ months for state-level emergency alerts (FEMA/Weather).
- **AudioAI:** Developed the "World's First AI DJ," scaling to **40+ radio markets**. Designed an asynchronous orchestration layer using **Python and SQS** to manage complex scheduling for 100+ concurrent live broadcast breaks during peak hours.
- **SpotOn (AI Ad Platform):** Designed and optimized a high-throughput API handling **100 requests/sec** for AI-generated media. Built a custom vendor abstraction layer to orchestrate jobs across 5+ LLM and TTS providers, ensuring low-latency failover and cost-efficiency.
- **AI Video Server (Go):** Authored a high-performance **Go-lang** service to process video generation jobs. Implemented an adaptive, latency-aware round-robin worker strategy to distribute load across 10+ external vendors within API rate limits.
- **Observability:** Standardized system-wide monitoring by deploying centralized **Grafana and Prometheus** stacks. Implemented structured logging and tracing, reducing the Mean Time to Detection (MTTD) for production incidents.
- **Leadership:** Drove architectural decisions for AI integration patterns and mentored junior/mid-level engineers on distributed system design and CI/CD best practices.

JOOR

Dec. 2021 – Aug. 2023

Full Stack Software Engineer

Philadelphia, PA

- Backend-oriented full-stack software engineer working on one of the 3 core teams for JOOR (Series D Startup), the largest wholesale fashion marketplace, facilitating over 18 billion dollars in transactions annually
- Primarily developing an API and web application servicing over 350,000 global retailers written with Typescript/JavaScript, React, Python, Django, GraphQL, gRPC, and Postgres DB
- Rewrote the web applications client-side caching logic for a 100% improvement in performance
- Designed and developed a recursive GraphQL schema for a new API endpoint that allows retailers to create nested budgets across multiple orders

- Developed fixes for critical backend bugs related to performance and query optimization issues
- Implemented a comprehensive end-to-end test suite to prevent regressions using Cypress testing framework
- Ranked among the top 3 out of 70+ developers in Productive Impact score on Code Climate
- Delivered on time SaaS applications for the highest performing team in the company
- Worked collaboratively with multiple teams in different time zones

ASRC Federal Mission Solutions Engineering

Oct. 2020 – Dec. 2021

Software Engineer

Moorestown, NJ

- Designed and developed Ballistic Missile Defense capabilities for the Aegis Combat System which is currently deployed on U.S. Missile Destroyers
- Structured and extended several software components of the Aegis Combat System in order to track and destroy Ballistic Missiles with jamming capabilities
- Worked within an Agile team and helped prioritize feature requests to ensure that the largest impact features were delivered first
- Built extensive test coverage for new missile tracking components in order to validate critical code logic
- Designed Python and Bash scripts to help streamline review process and CI pipeline
- Certificate of Appreciation awarded for developing functional system upgrades under a tight deadline
- Security Clearance Level: Secret

EDUCATION

Seton Hall University

May 2020

Bachelor of Science in Computer Science

South Orange, NJ

- **GPA:** 3.7
- **Awards:** Magna Cum Laude

PUBLICATIONS

- Morazán, M., **Schappel, J.**, Mahashabde, S., (2020). Visualizing Deterministic Finite-State Automata in FSM. The Electronic Proceedings in Theoretical Computer Science. DOI: 10.4204/EPTCS.321.4

PRESENTATIONS

- The FSM Interface with Graphviz. **Trends in Functional Programming** 2023, UMass Boston
- Using Object-Oriented Design Patterns in a Functional Programming Setting. **IFL** 2020, University of Kent
- Visual Designing and Debugging of Deterministic Finite-State Automata in FSM. **TFPIE** 2020, Kraków, Poland