Sammy Tran

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WORK EXPERIENCE

Amazon Web Services (Amazon EMR) **Apr. 2022 – July 2023**

Software Development Engineer *Seattle, WA*

- Built and maintained features for EMR's Java-based instance management system, supporting cluster operations for 100+ enterprise customer deployments on EC2.
- Coordinated Puppet configuration changes with control plane teams to optimize lastlog file retention across thousands of EMR clusters, preventing disk space issues on long-running instances
- Developed lsof-based tracking to detect open file handles during disk space saturation on EMR nodes, preventing premature log deletion and enabling reliable partial uploads on ~30% of newly launched clusters
- Fixed edge cases in per-instance file handling and S3 upload logic, reducing data loss by 5% and saving key customers thousands of EC2 instance-hours monthly
- Backported critical bug fixes across EMR release branches, maintaining 99% reliability through manual and automated integration testing
- Resolved 90% of support tickets within 24 hours, diagnosing production issues and working directly with account managers and customer engineers

TECHNICAL SKILLS

- **Cloud & Infrastructure:** AWS (EC2, S3, EMR, CloudWatch, IAM), Docker, Kubernetes, Helm, Puppet
- **Distributed Systems:** gRPC, Redis, Redis Streams, Hadoop, HDFS
- **Monitoring & Observability:** Prometheus, Grafana, CloudWatch, System Diagnostics
- **Languages:** Java, Go, Python, SQL
- **CI/CD & Automation:** GitHub Actions, Automated Testing, Release Management
- **System Administration:** Linux System Administration, Performance Tuning, Troubleshooting

PROJECTS

Production-Grade URL Shortener Platform *| Go, Kubernetes, Prometheus, Helm | June 2025*

- Architected microservices platform with CI/CD pipeline, comprehensive monitoring (Prometheus/Grafana), and automated Kubernetes deployments with multi-stage testing
- Validated performance under k6 load testing (3,000 concurrent users, zero failures) with automated rollbacks, health checks, and alerting
- Implemented Redis Streams-based event pipeline with at-least-once delivery semantics, including error handling, automatic retries, and Prometheus-based monitoring for stream health.
- Developed during dedicated learning period post-employment due to non-compete clause

Receipt Processing Backend System *| Java, REST API | Feb. 2025*

- Designed REST API system processing receipt data for reward point calculations with optimized validation and rule execution engine
- Implemented robust data pipeline with structured JSON endpoints, proper error handling, and performance optimizations for large-scale processing

System Performance Optimization Project *| Linux, Performance Analysis*

- Developed system-level monitoring and optimization tools using Linux utilities (lsof, system calls) for resource tracking and performance tuning
- Implemented automated diagnostics for file handle tracking and disk space management across distributed infrastructure

EDUCATION

University of California, San Diego **June, 2020**

Bachelor of Science in Mathematics–Computer Science *La Jolla, CA*