Jacob Swanson

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Skills

Languages	Java, SQL, TypeScript, PHP, Bash
Tools	Spring Boot, Hibernate, MySQL, PostgreSQL, Redis, Solr
Cloud Services (AWS)	ECS, EC2, Fargate, RDS, ElastiCache, CloudFormation, S3, CloudWatch, Cognito, SQS, SNS, Event Bridge, Kinesis, API Gateway, Lambda, Batch, DynamoDB
DevOps	Linux, Docker, Linux, Azure DevOps, AWS CDK, New Relic, PagerDuty, Renovate

Experience

Talroo (formerly **Jobs2Careers**) — Austin, TX

Senior Software Engineer — August 2019 – August 2023

Software Engineer — April 2017 – August 2019

- Led the development of the Platform, a modern RESTful API replacement for a legacy PHP system.
  - Embraced an API-first approach, enabling seamless integration for internal teams and external customers.
  - Worked closely with product managers to develop roadmaps and determine technical details.
  - Engineered a resilient event-driven system, cutting lead and job application delivery time from 10 minutes to 1 second.
  - Developed in Java using Spring Boot with AWS services such as S3, API Gateway, ECS, DynamoDB, Lambda, SQS, and more.
  - Created a secure and versatile CRUD framework tailored to the existing MySQL database schema using Spring Security and Spring Data JPA.
- Collaborated to resolve operational and scaling issues.
  - Leveraged New Relic and YourKit to analyze code performance and implemented improvements based on profiling insights.
  - Achieved 99.9% uptime on jobs2careers.com, efficiently handling 150k requests per minute.
  - Replaced a file-based PHP caching system with a more efficient Redis-based solution, addressing CPU overload issues.
  - Optimized job import system to increase maximum horizontal scalability from 10 to 20 machines to 150+, efficiently handling up to 250 million jobs per day.
  - Addressed data reliability issues with the job import system by adopting RDS PostgreSQL, implementing concurrency controls, and utilizing AWS Kinesis for streaming.
  - Played a pivotal role in identifying and addressing issues within the budgeting system, reducing overspending and saving over $100k per month.
- Enhanced system observability by implementing comprehensive monitoring and alerting using AWS CloudWatch.
- Built and maintained CI/CD pipelines for new and existing software using Azure DevOps with Ansible, CloudFormation, and CDK.
- Orchestrated the upgrades of Java, PHP, and NodeJS, taking advantage of performance improvements and ensuring compatibility.
- Worked with the infrastructure team to seamlessly upgrade software such as MySQL, PostgreSQL, Redis, and Solr.
- Provided comprehensive support to the sales department by demonstrating proactive troubleshooting and implementing bug fixes and minor features.

Geeks and Nerds (GaN) Huntsville, AL
Software Engineer September 2014 – October 2016

- Independently developed high-quality and well-documented software, demonstrating self-reliance and strong technical skills.
- Collaborated within a small agile team to develop RAGE, a web-based content management system designed to optimize data collection and sharing at test events using Spring Boot and Angular.
- Enhanced RAGE by introducing features like Active Directory authentication with smart cards, robust security measures, and flexible metadata collection.
- Implemented continuous integration pipelines using GitLab CI, automating code analysis through SonarQube for improved code quality.
- Contributed to customer support, bug fixes, and features for CabuzTime, a government-approved timekeeping application using Java.
- Automated the billing and registration process for CabuzTime using Stripe, streamlining administrative tasks and improving user experience.
- Developed a kiosk-style web application for displaying solar panel statistics using Spring Boot, Angular, and D3 to create an informative and user-friendly interface.
- Engineered Acronytor, a Visual Basic application that automated the creation of acronym lists in Microsoft Word documents for government contracts.
- Collaborated with senior engineers on bug fixes and new features for an aviation testing system using C++ and Qt.

Mentor Graphics Huntsville, AL
Intern Software Engineer January 2013 – August 2013

- Worked within a Scrum-based engineering team focused on testing a web application framework using Java aimed to bring electronic design, automation, and simulation to the web browser.
- Developed unit and integration tests in Java using TestNG to find bugs, detect regressions, and to achieve code and branch coverage goals.
- Collaborated to create performance tests using HP LoadRunner and Performance Center, ensuring optimal application performance.
- Authored documentation for the diverse test suites, accelerating the onboarding process.
- Actively monitored and analyzed automated test results to proactively identify regressions, enabling swift corrective actions.

Alabama A&M University / University of Alabama in Huntsville Huntsville, AL
Contract Developer / Student Researcher June 2011 – August 2011

- Collaborated with a small team across two local universities to create Water Wheels, a mobile lab for teaching outdoor water conservation.
  - Developed a simple educational video game using the Unreal Development Kit.
  - Created an Arduino-powered demonstration that synced audio and visual cues to demonstrate a home rain-capture system.
- Implemented a proof-of-concept library in C++ to confirm students could use the Unreal Development Kit to visualize their N-body MATLAB simulations.

Education

University of Alabama in Huntsville December 2014
Bachelor of Science, Computer Engineering