CHARLES AGNELLO

M: 317.603.5255 | E: charles.w.agnello@gmail.com | Santa Clara, CA 95051

SUMMARY

Software Engineer with proven development experience on Java based RESTful web services as APIs powering public facing applications in a highly distributed system with high availability. Well versed in all phases of the software development lifecycle

QUALIFICATIONS

- Programming languages: Java 8, Java 17, Java 21, and Perl
- Knowledgeable of RESTful web services
- NoSQL data stores: SOLR, MongoDB, Redis, Cassandra
- Functional knowledge of MongoDB, querying via the mongo-shell and the Java driver, db and data design, system administration
- Knowledge of SQL with use of PostgreSQL, MySQL and Oracle
- Test tools: JUnit, Mockito, AssertJ, Wiremock, and Cucumber
- Experienced with SCRUM and Kanban
- Productivity tools: JIRA, Confluence, Trello, Slack
- CM Tools: Git and SVN
- Other: AWS, Kubernetes, Micronaut, DataDog, Open Telemetry, Multipass, Addigy, Dropwizard, Grafana, Prometheus, Metricio, Docker, Kafka, Splunk, Maven, Zabbix, Bash (shell scripting), Jax-RS, Spring, SpringBoot 2/3, Spring MVC, PagerDuty, Postman, JSON, Regular Expressions, Mac OS X, Linux

PROFESSIONAL EXPERIENCE

BILL | 09/2024 - present | Senior Software Engineer
Technology: Java 17, Gradle, Micronaut, AWS, DynamoDB, SQS, Terraform
- Identified accumulated tech debt in the main service the team manages and created a list of actionable items to address the tech debt
- Building a new microservice based on a feature extracted from a monolith
- Worked crossfunctionally with the Cloud infrastructure team to make some improvements in the process of spinning up a new service
- Evangelizing practical Java design principles to my team and related teams

Avail Medsystems | 11/2020 - 11/2023 | Senior Software Engineer
Technology: Java 8/17, Gradle, Springboot 2/3, AWS, Kubernetes, Shell, Postgres, Redis
- Created two new microservices: one to manage 3rd party integrations and one to manage the status of internal API services
- Redesigned and implemented the error handling in the web services to be consistent
- Worked cross functionally with the front end team to improve the contract between the back end and the front end
- Worked for the front end team making changes needed for the backend (Node.js and Swift application)
- Refactored the microservices to reduce duplicated code across our microservices and to remove other technical debt
- Decoupled the web service properties from the application (externalized properties)
- Actively involved in improving the code base in general by adding more unit tests, improved logging, improved observability, refactored code as needed, added tooling to improve productivity
- Mentored other junior engineers on the team in regard to best practices building RESTful applications and in Spring paradigms
- Remediating security vulnerabilities found via scans from AWS ECR image scanner

SoundHound inc | 5/2018 - 4/2020 | Senior Software Engineer
Technology: Java 8, Dropwizard, GCP, Jenkins, MongoDB, Prometheus, Grafana
- Created a metric gathering library that is used in all of the Dropwizard applications. Designed the data aggregation in Prometheus with the intention of viewing the data in a single Grafana dashboard
- Created a React.js dashboard (using Metricio) that displays the current version of all the web services our team maintains
- Designed and implemented a robust system for replicating data across multiple datacenters
- Mentored the other Java engineers on best practices in regard to writing Java
- Improved the software development process by instituting a common pattern for developing the Dropwizard applications (logging, monitoring, documentation, coding style, consistency, and coding clarity)

Ticketmaster | 1/2013 - 2/2017 | Software Engineer
Technology: Java 8, Spring MVC, Springboot 1, Splunk, MySQL, OpenTSDB, Postgres
- Created a new Springboot microservice (to replace a legacy system) that is part of the Ticketmaster Open Platform initiative
- Monitored onsales for key events to ensure that all systems were operating smoothly and to act quickly when/if any problems occurred
- Gathered timing data for methods using Aspect Oriented Programming (AOP) point cuts using AspectJ
- Created reports generated by Splunk for the API traffic showing aggregate data, errors broken down by endpoint and channel, and other statistics
- Owned the bot blocking code within the Ticketmaster API
- Improved bot blocking by adding several strategies including 3 counter based blocking, 2 metadata based blocking via MaxMind's GeoIP data, and only applying the strategies to a few high impact endpoints
- Decreased search time over a particular set of data from an average of 2 seconds to an average of 7 ms
- Maintained an annual 100% uptime goal and maintained high availability of the API through performance improvements
- Created a script to automatically block CIDRs based on country of origin using the Ticketmaster API. The script kept track of WHOIS data for previously checked IP addresses and the corresponding CIDR, dynamically updated a local in-memory list of the current blocked CIDRs to prevent duplicating a blocked CIDR, and updated the API's list of blocked CIDRs
- Increased unit test coverage from 22% to over 43% (as part of a team goal) within 1 years time
- Added monitoring dashboards in Metrilyx (Ticketmaster open source project) which is a front end for OpenTSDB data
- Added two additional backend webservices that are consumed by the Ticketmaster API
- Trained and mentored junior team members in software development best practices

CityGrid Media | 01/2010 - 12/2012 | Software Engineer
Technology: Spring, Spring MVC, MongoDB, Java 6, JaxRS, AWS, Perl
- Successfully reworked the build pipeline to use Continuous Integration and integration tests
- Added the ability to run Jmeter performance tests through Hudson with custom Perl scripts to analyze the data
- Improved the performance of the API response time over 90% by using MongoDB to serve data
- Integrated another web service into the Content API webservice

---

EDUCATION

Rose-Hulman Institute of Technology, Terre Haute, IN | Bachelor of Science in Computer Engineering