

Aaron Loes

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Technical Expertise

Languages: Java, Python, JavaScript, Typescript, Groovy, Kotlin
Software: Chalice, Spring, Hibernate, Hazelcast, Kafka, Elastic Stack, Postgresql, Docker, Docker Swarm, Kubernetes, Terraform, Ansible, Maven, GIT, MySQL, Nginx, and much more
Infrastructures: AWS
Operating Systems: Linux, MacOS

Professional Experience

NextEra Analytics

Software Consultant (2020 - 2022)

Member of the Smart Grid Analytics team tasked with building out software for monitoring, managing, visualizing and analyzing smart meter data through the use of in-house developed software for use by external customers.

- Tasked with understanding, documenting and explaining the architecture and implementation of existing unmaintained software system for future enhancements.
- Redesigned and refactored existing Micronaut and Python microservices, VueJs user interface, and Terraform infrastructure configuration to convert from single-account single-tenant deployment to add multi-account and multi-tenant capabilities.
- Implemented mock backend and frontend features for demonstration environments for the use in sales conversations with future customers and partners.
- Presented lightning talk about the Smart Grid Analytics project's purpose and technologies to company wide technology teams.

Member of the Center of Work Excellence team tasked with designing and building software to aid wind turbine technicians through workload optimization and visualization using in-house developed software systems.

- Technical lead for the Total Cost Optimization software system which is responsible for generating an optimized schedule of daily work for field technicians across all renewable energy wind farm sites in the United States based on calculated revenue gained from work performed.
- Designed and implemented multiple software components for data retrieval and aggregation using serverless technologies DynamoDB, AWS Lambda, Chalice, etc and infrastructure automation with Terraform.
- Introduced a fully automated software versioning system for software libraries and deployable systems to reduce developer time and effort spent deploying new features to production.
- Refactored and integrated existing heuristic-based work scheduling algorithm into primary field technician tooling using Python, AWS serverless and VueJS.
- Implemented features for technician web and mobile applications using Typescript, Angular, Kotlin and Groovy.

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Technologies: AWS serverless infrastructure, Terraform, Python, Chalice, Docker, VueJS, Java, Kotlin, Groovy, Typescript, Javascript, Angular, Micronaut, Parquet.

FastBridge

Software Consultant (2019 - 2020)

Part of the New Architecture team tasked with designing and implementing the reimagining of FastBridge's student assessment software aiming for high scalability, high reliability, rapid development and reduced operational costs through use of pay-per-use serverless technologies and TDD and pair programming methodologies.

- Implemented AWS lambda functions in Python through the use of the Serverless Framework
- Integrated the new functionality into the existing Spring based legacy monolith application
- Improved testability of implementations through use of automated end-to-end regression testing through the continuous deployment pipelines
- Worked with company operational teams to get infrastructure in place for production deployments through automated AWS CloudFormation templates
- Cross trained with other teams about the technologies and methodologies used for the next generation vision

Technologies: AWS serverless technologies, AWS CloudFormation, Python, Pytest, Make, Serverless Framework, Java, Groovy.

TransVoyant

Software Consultant (2015 - 2019)

Company-wide Architect responsible for guiding teams in best practices in software design to meet company defined standards and architecture methodologies. Infrastructure team lead responsible for building out the company-wide infrastructure, deployment tooling, and systems monitoring.

- Built out core frameworks leveraging Spring for all 250+ microservices to use to allow for rapid development while maintaining a high production quality
- Helped transition company over to Docker via Docker Swarm
- Helped transition company software messaging middleware to Kafka
- Helped transition company software to automated deployments to Ansible
- Proved out a prototype for automating entire companies infrastructure build-out using Terraform and custom modules onto AWS
- Designed and built out companies entire platform security using Spring Security and OAuth for microservices and began migrating company to use encryption in transit and at rest and maintained air-gapped private certificate authority for all internal systems
- Design entire central monitoring system using the Elastic Stack and integrated abilities into core framework
- Laid out best practices for software design and architecture best practices and participated in software design reviews
- Designed technological roadmap to meet companies future goals
- Lead small team in building out and maintaining company wide infrastructure running on AWS

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Technologies: AWS, Java, Groovy, Javascript, Scala, Spring Boot and many Spring libraries, Kafka, Postgresql, Elasticsearch and Elastic Stack, Docker Swarm, Zuul, Eureka, Ansible, Terraform, JUnit, Spock, Maven, Gradle, Okta, Spark, IntelliJ, Ubuntu, and more.

FICO

Software Engineering Lead (2012 - 2015)

Architect responsible for designing and developing reimagined enterprise web applications for the customer engagement tools of FICO's marketing division. Main software security engineer and lead UI engineer for all Roseville based marketing software solutions.

Technologies: Java, Javascript, Spring, Couchbase, MongoDB, jQuery, KnockoutJS, BackboneJS, Selenium, OSGi, VMWare, Tomcat, Apache, OAuth, REST, Maven, Eclipse, Windows

Boston Scientific

Software Engineer Sr. (2009 - 2012)

Assist in the development and maintenance of a multi-tiered web application that assists medical professionals in the health care of individuals with implanted cardiac devices.

Technologies: Java, Groovy, Spring, EJB, Javascript, Tomcat, OracleDb, Selenium, WebDriver, Windows, MacOS, Maven, Eclipse

Minnesota Public Radio

Software Engineer (2007 – 2009)

Work with customers and developers to define business requirements to enhance company efficiencies. Code, test, implement and maintain software solutions using company developed tools and methodologies.

Technologies: Java, PHP, Groovy, Grails, Ruby, Rails, Javascript, Spring, Struts, Hibernate, Selenium

Accenture Technology Solutions

Senior Programmer (2006 - 2007)

Programmer (2005 - 2006)

Work with various clients to assist in the testing of Accenture and client developed web based applications. Responsibilities include test development, testing process, tool development and provide training.

Technologies: Java, Python, JWebUnit, Selenium

Education & Organizations

Masters of Science in Software Engineering
University of Minnesota, Minneapolis, MN
September 2009 – May 2011

Bachelors of Science in Computer Science, Minor in Applied Mathematics
University of Minnesota, Duluth, MN
August 2000 – December 2004