Anthony R. Thielen

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Dynamic and accomplished engineer with proven ability to develop and architect highly-available and concurrent distributed systems in autonomous work environments. Voracious reader, self starting, and autodidact with a passion for learning new technologies, methods, and tools. Proven ability to mentor junior hires and contribute business driven decisions on tech stack and emerging technologies.

EXPERIENCE

Health Partners- Richfield, MN   2019 - Present
Senior Software Engineer - Contract (May 2019 - Present)
Senior Engineer on the Web and Mobile Development Team designing and implementing a large scale refactoring of a monolithic platform to a microservice architecture leveraging the Openshift environment and Spring Boot.

Optum Technology - Eden Prairie, MN   2019
Full Stack Engineer - Team Lead (January 2019 - May 2019)
Team Lead, Engineer and Solutions Architecture member integrating emerging technologies for the Product Engineering & Data Solutions Team on a highly visible Data Visualization Dashboard for Healthcare Providers.
- Responsible for technical designs and architectural decisions for integrating with a Kafka streaming platform and transitioning to a platform that takes advantage of being the sink for multiple sources through streaming and batch.
- Helped scale the product from supporting 100 providers to ~4000 providers while increasing overall performance during this growth to allow for lower latencies and decreased footprint in an Openshift Environment.
- Created technical feature stories from collected business requirements for teams engineers balancing team's capabilities, bandwidth and ease of parallel development across multiple components.
- Designed and enacted multi tiered distributed caching for domain microservices leveraging Spring Boot, Aspect Oriented Programming, Caffeine and Redis to decrease our latency resulting in a decrease of ~500ms in the 75th percentile of our domain endpoints request times to meet the products aggressive service level objective.
- Lead performance-motivated refactoring of backend java applications as part of a preemptive effort to prepare the product for scaling. Refactoring resulted in a 2000% increase of throughput per node, a drastic decrease in heap space usage by 8 times along with a ~15ms decrease in latency.
- Extended team's internal Spring Boot library to create reusable, opinionated team-centric modules to increase velocity of new Microservice development and deployment.
- Trained and mentored junior hires in programming methodologies and best practices around Test Driven Development, Openshift deployment patterns, DevOps work, CI/CD pipeline, data ingestion processes, automation.
- Integrated emerging technologies like Kubernetes, Prometheus, Pact, Micrometer, Redis in strategic initiatives to balance the stability of the project with keeping it revolutionary.

Best Buy - Richfield, MN   2016 – 2018
Software Engineer - Recommendations (June 2017 - December 2018)
Member of Agile feature team focused on optimizing, refactoring, and building new features for Best Buy's Recommendation Engine including dynamic filtering, boosting, complex event processing, machine learning and real-time event capture of 15M+ requests weekly that earned $1.4B+ in annual revenue.
- Designed and implemented Java Spring Boot microservices emphasizing metric collection and 12 Factor App principles for deployment in a containerized environment as part of a Recommendation Platform redesign.
- Responsible for high-level architectural decisions and technical feature design for several of these applications including the final solution for the main data model in Cassandra that stores batch and real time datasets
- Refactored the real-time data ingestion solution utilizing Apache Storm and Kafka to reduce latency and increase throughput, leveraging Storm's distributed and parallelized system to augment batch processing recommendations.
- Conducted stress tests to analyze and adjust system resources and optimize performance to handle 12K+ requests per second with reduced footprint, saving $200K+ in AWS costs during peak holiday shopping season.
- Contributed to Recommendation platform redesign and migration to Openshift, emphasizing best practices, metrics collection, and ease of deployment to increase value, reduce complexity and footprint, and increase manageability.

- Implemented system, application, and error metrics in Apache Storm with Spring and Dropwizard metrics to extend monitoring solution and improve the capability to detect anomalies and outages in production.
- Led initiative to turn DevOps into a team philosophy by fleshing out documentation on stack operations, furthering stack's transparency through alerts and logging, automating repetitive tasks, and introducing ChatOps via Hubot.
- Maintained and supported multiple automated staging environments in AWS leveraging chef scripts and Openshift utilizing Jenkins CI/CD, and created development docker images for local integration testing.
- Spearheaded a learning culture for junior developers and implemented a bi-weekly book club to develop team capabilities in languages, Big Data tools, Docker, development best practices, automation, and current methodologies.

Software Engineer Intern (May 2016 -Aug 2016)
- Developed a scalable real-time geographical map to display user monitoring data using Node.js, Leaflet.js, and D3.js valuable in diagnosing geographically isolated errors and to visualize worldwide trends from user requests.
- Led development of statistical analysis modules and D3.js data visualizations to extend functionality of the monitoring map to allow comparison against historical datasets for anomaly detection and alerting.
- Utilized data visualization tools to display trends across Best Buy's web systems to diagnose customer-impacting failures and measure website response times using Graphite and custom monitoring solutions.

SKILLS
Languages: Java (7&8), Python, JavaScript, Bash, Go, C++, C

Tech and Framework: Spring, Spring Boot, Docker, JUnit, Kafka, Openshift, Kubernetes, Cassandra, Jenkins, Storm, Solr, AWS, Prometheus, Graphite, Grafana, Node.js, Git, Hubot, Netflix Feign/Eureka/Hystrix, OpenFeign, Splunk, Kibana, Memcache, Redis, Pact, MongoDB, Elastic Search

Project Tools: Jira, Rally, Confluence, BitBucket, Hipchat, Slack, Flowdock

Methodology: Service Oriented Architecture, Event Driven Architecture, Microservices, Streaming, Test Driven and Behavior Driven Development, Agile Development, Continuous Deployment, Continuous Integration, Continuous Improvement, Automation System, Operational Transformation, Monitoring Theory, Metrics Collection, DevOps, Deployment Orchestration, Site Reliability Engineering

Projects
Homelab Built out a personal homelab to conduct research, mock pseudo production environments with custom applications to test out new frameworks, automate operational tasks, and host personal applications with CI/CD pipelines. Current technology: *Docker, Kubernetes, Proxmox, pfSense, Grafana, Prometheus, Kafka, OpenFaas, FreeNas, CentOs.*

EDUCATION
BS Computer Science, University of Minnesota Duluth - Duluth, MN.