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

Best Buy - Richfield, MN 2020 - Present

Backend Engineer - Contractor (June 2020 - Present)

Senior Backend Engineer on Multi Channel Commerce Team focusing on Payment Initiative, abstracting away payment complexities from all of BestBuy.com allowing digital customers to transact easier, faster, and with their preferred payment methods.

- Shepherded substantial portions of a technical initiative to move Payment to a Platform model by providing technical solutions, designing and implementing engineering tasks, developed best practices for new processes
- Led aggressive performance refactoring and of Payments backend service to uniform microservices leading to ~18% of execution time being freed up and improved feature velocity caused by clean code.
- Spearheaded the introduction of Reactive Programming to the platform's backend Spring Boot applications using WebFlux leading to an increase of requests per deployed instance decreasing Payments operational overhead.
- Self started automation and refactoring initiatives that turned into official Payment team initiatives. Automation work eliminated ~30 hours/month. A mix of release and pipeline automation eliminating manual steps.
- Founded '*Best Buy Inn*' Best Buy Digitals inner source community inside focusing on shared projects surrounding process automation, release automation, centralized onboard development.
- Active member and vocal contributor to BBY Community of Practice group focusing on uniform engineering onboarding, Rest API best practices, improvements to automated Jenkin pipelines, how uniformity can increase feature velocity.

Rebel Solutions & Consulting LLC 2019 - Present

Founder (May 2019 - Present)

Firm providing (onsite & remote) expert software engineering services to a wide array of clients since its founding in 2019.

- Provided high level consulting with clients on an array of web development projects spanning from community pages, sport meetup sites and job finder projects to ensure an evolutionary design as these companies grew in traffic and customers.

Health Partners - Richfield, MN 2019

Senior Software Engineer - Contractor (May 2019 - November 2019)

Senior Engineer on the Global Team leading effort to design and implement a large scale migration of Global teams contributions to a monolithic application to a microservice architecture leveraging Openshift and Spring Boot.

- Led the migration effort of Global Team's portfolio employing the Strangler pattern to decouple business logic and move services to a containerized solution with a proper CI/CD pipeline
- Shepherded substantial portions of the technical work of converting Weblogic monolithic applications into a micro service architecture leveraging Spring Boot, OpenFeign and Hystrix.
- Led Teams approach on API Design for applications used by all of the Health Partners Digital Department focusing on evolutionary architecture and best-in-class design to keep them flexible for future features
- Crafted designs from collected business requirements, communicated cross teams to achieve more holistic designs and created stories for the engineering team to complete.
- Pioneered internal team best practices and patterns for Global Team services surrounding Spring Boot, web application standards, API design, and consumer integration which was engendered across the department.
- Contributed sizable portions to global CI/CD pipeline development in an effort to create a 'build tool agnostic' pipeline to accommodate maven and gradle builds.

Optum Technology - Eden Prairie, MN 2019

Team Lead Software Engineer (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 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.
- Led 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.
- 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.
- Created technical feature stories from collected business requirements for teams engineers balancing team's capabilities, bandwidth and ease of parallel development across multiple components.
- 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 (June 2017 - December 2018)

Engineer on 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 several architectural decisions and technical feature design for several of these applications including a revised solution for the main data model in Cassandra that stores batch and real time datasets
- Refactored the real-time data ingestion solutions 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.

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.

SKILLS

Languages: Java (7,8,9,11), Groovy, JavaScript, Python, Bash, Golang

Tech Tools: Spring, Spring Boot, JUnit, Kafka, Cassandra, Storm, Solr, Node.js, Netflix Feign/Eureka/Hystrix, OpenFeign, Memcache, Redis, MongoDB, Elastic Search, Swagger, OpenApi, Jenkins, Docker, Kubernetes, Prometheus, Graphite, Grafana, Git, hubot, Splunk, Kibana, Pact, Maven, Gradle, Jmeter, AWS, Openshift, Linode

Methodology: Service Oriented Architecture, Event Driven Architecture, Microservice Architecture, Streaming at Scale, REST API design, 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

EDUCATION

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

PROJECTS & OPEN SOURCE

Homelab Maintains personal homelab to conduct research, mock pseudo production environments with personal applications to test out new frameworks, automate operational tasks, and host applications with CI/CD pipelines. Current technology: *Docker*, *Kubernetes*, *Proxmox*, *pfSense*, *ELK stack*, *Grafana*, *Prometheus*, *Gitlab*, *Kafka*, *Flink+Beam*, *OpenFaas*, *FreeNas*, *LXC*.

Interests

Photography, Reviewing Films, Graphic Design, Finance, Hiking.