Jaya Sai Krishna Muppalla

Software Engineer

Personal Info

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WWW
https://jayasai470.github.io

GitHub
https://github.com/jayasai470

Skills

Java, NodeJs — Expertise

SpringBoot, Express, NestJS — Advanced

GoLang, Python — Intermediate

AWS — Expertise

Azure, OCI — Intermediate

Kafka, Kinesis, Flink — Intermediate

Kubernetes, Helm, Docker — Expertise

Devops, Terraform, Serverless — Advanced

MongoDB, Redis, Mysql — Advanced

Rest, WebSocket, MQTT, GraphQL — Advanced

Summary

Experience in designing, developing, deploying and maintaining highly available, scalable rest api's which are battle tested and performance optimized using java, nodejs and aws

Experience

March 2022 - present

Engineer 3, Software Process engineering

Employer:*Samsung Electronics America*

- Developed a GPT-based movie recommendation system to enhance user experience through personalized suggestions.
- Conducted research and development on custom Retrieval-Augmented Generation (RAG) techniques aimed at delivering tailored movie recommendations.
- Utilized the LangChain framework in conjunction with Azure OpenAI and OpenAI's language model providers to implement sophisticated AI-driven features.
- Integrated various vector database stores, including Azure AI Search and Redis vector module, to optimize data retrieval and storage processes.
- Transitioned the existing logging and observability infrastructure to an OpenTelemetry-based approach, enabling unified collection and analysis of logs, metrics, and traces.
- Developed a low-latency game streaming platform ensuring high-performance delivery.
- Engineered automation for virtual game machine provisioning using KubeVirt (Kubernetes + Virtual Machines) for both AWS and OCI metal machines.
- Implemented game execution on virtual machines with both Nvidia and AMD GPUs using vGPU/SR-IOV on Windows/Linux systems.
- Innovated an economical method to make game machines accessible by designing a custom Kubernetes host port operator.
- Established and managed a Rook + Ceph storage cluster to facilitate Read-Only Many (ROX) persistent volume claims, compensating for AWS's lack of native support.
- Customized the Puppetlabs pvpool controller for Kubernetes volume snapshot making replica creation instant.

July 2019 - Feb 2022

Engineer 2, Software Process engineering

Employer:*Samsung Electronics America*

- Developed NodeJs backend services and successfully deployed them on Kubernetes (EKS) utilizing Helm charts.
- Developed an indoor positioning system using beacon technology for proximity detection and contributed to contact tracing solutions for wearable devices.
- Utilized Apache Flink for real-time stream processing and implemented Complex Event Processing (CEP) for advanced event pattern detection.
- Designed and implemented microservices using a Function-as-a-Service (FAAS) model, adopting an event-driven architecture hosted on AWS, with deployment automation via Serverless framework.
- Built fully reactive applications leveraging Spring WebFlux, MongoDB, and Kafka for responsive and scalable solutions.
- Automated the deployment process for single-page React applications using a combination of CDN, Amazon S3, Jenkins, and CircleCI for efficient content delivery.

Aug 2015 - July 2019

Server Engineer

Employer:*Samsung Electronics America (Contractor)*

- Implemented GeoSpatial queries and GeoHashing for Geofence and location-based alert functionalities.
- Utilized various mapping APIs such as OpenStreetMaps, Leaflet, Google Maps, and HERE Maps for geocoding and data visualization.
- Gained comprehensive experience in app development, including working with client-side, server-side, CMS (Magnolia), persistence layers, and streaming services (Kafka).
- Conducted rapid prototyping for proof of concepts with emerging technologies, ensuring their maturity for production-grade deployment on AWS.

Education

Aug 2013 - May 2015

University of Missouri Kansas City (UMKC)

Masters in Computer Science

May 2009 - April 2013

Jawaharlal Nehru Technological University

Bachelor's in Electronics and Communication Engineering