

# Jaya Sai Krishna Muppalla

Software Engineer

## Personal Info

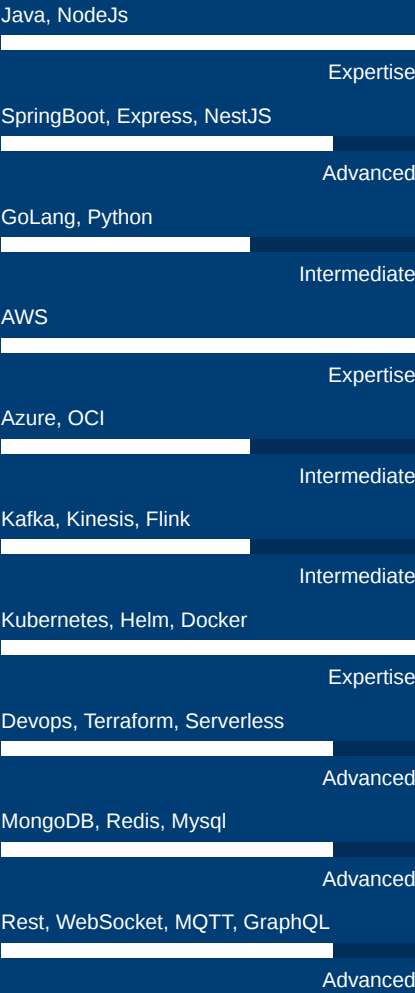
**Phone**  
618-946-5202

**E-mail**  
jayasai470@gmail.com

**WWW**  
https://jayasai470.github.io

**GitHub**  
https://github.com/jayasai470

## Skills



## 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