

John Pranoy Yalla – Full Stack Software Engineer

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SUMMARY

Full Stack Developer with **7+ years** building scalable enterprise applications on **AWS** and **OpenShift**. Experienced across the full stack – **Spring Boot** microservices and **GraphQL** APIs on the backend, **Angular** and **React** on the frontend. Deep expertise in **event-driven architecture** (**Apache Kafka**), **AI-powered applications** (**Spring AI**, **RAG pipelines**, **tool-calling**), and **cloud-native deployments**. Published researcher at **ACM** and **IEEE**. Currently pursuing **MS in Software Engineering** at Kennesaw State University.

TECHNICAL SKILLS

Languages: Java (8/11/17), JavaScript (ES6+), TypeScript, Python, SQL, NoSQL

Backend: Spring Boot, Spring MVC, Spring Security, Spring Data JPA, Spring AI, Hibernate, RESTful APIs, GraphQL, Microservices

Frontend: React, Angular, TypeScript, HTML5, CSS3, Bootstrap, jQuery

AI & LLM: RAG (Retrieval-Augmented Generation), Tool Calling, Vector Databases (Pinecone, pgvector), LLM Integration, Prompt Engineering, Cursor, Claude Code

Messaging & Data: Apache Kafka, Redis, Elasticsearch, Oracle DB, PostgreSQL, MySQL, MongoDB, JDBC

Cloud & DevOps: AWS (EC2, S3, Lambda, RDS, CloudWatch), Docker, NPM, Kubernetes, Red Hat OpenShift, Jenkins, GitHub Actions, Maven, Git, GitLab

Security: OAuth 2.0, JWT, Spring Security, RBAC, HTTPS/TLS

Testing & Observability: JUnit 5, Mockito, Selenium, Postman, JMeter, Splunk, SonarQube

Methodologies: Agile (Scrum), CI/CD, TDD, Domain-Driven Design (DDD), SOLID Principles

EXPERIENCE

Invoke Technologies (Client: CSC, USA)

Apr 2021 – Jul 2024

Senior Full Stack Software Engineer

Hyderabad, India

- Owned end-to-end development across the full SDLC from design through production release, collaborating with cross-functional Agile Scrum teams in a fast-paced enterprise environment.
- Designed and implemented scalable **RESTful APIs** and **GraphQL** endpoints using **Java 11**, **Spring Boot**, and **microservices** architecture, reducing average API response time by ~30%.
- Built asynchronous, event-driven workflows using **Apache Kafka** for inter-service communication, improving system decoupling and throughput for high-volume data pipelines.
- Leveraged **Redis** for distributed caching of frequently accessed data, reducing database load and improving response latency by ~40%.
- Refactored legacy monolithic codebase into independently deployable microservices with **Docker** containers orchestrated on **Red Hat OpenShift (Kubernetes)**, enabling zero-downtime releases via **Jenkins** CI/CD pipelines.
- Implemented **OAuth 2.0** and **JWT**-based authentication with role-based access control (**RBAC**) using **Spring Security**, ensuring compliance with enterprise security standards.
- Developed **Angular 14** single-page application with a reusable component library and integrated **Elasticsearch** for full-text search, improving content discoverability for end users.
- Wrote unit and integration tests using **JUnit 5** and **Mockito**, maintaining code coverage above 80% and enforcing quality gates via **SonarQube**.

Capgemini (Client: MUFG Union Bank, USA)

May 2019 – Apr 2021

Java Software Engineer

Hyderabad, India

- Contributed to modernization of legacy banking applications by migrating to event-driven **microservices** using **Java 8**, **Spring Boot**, and **Apache Kafka** for real-time transaction processing.
- Developed and enhanced backend services using **Spring MVC**, **Spring Data JPA**, and **Hibernate** ORM against **Oracle DB** and **PostgreSQL** for mission-critical financial systems.
- Deployed services to **AWS** (EC2, S3, RDS) and automated infrastructure provisioning using shell scripts and **Maven**, reducing environment setup time significantly.

- Built and optimized complex SQL queries, indexes, and stored procedures, reducing batch processing run time by ~35%.
- Authored **Selenium WebDriver** automation scripts integrated into the **Jenkins** pipeline, increasing regression coverage by 40% and reducing manual QA cycle from 3 days to under 1 day.
- Built **Splunk** dashboards and real-time alerts for production services, reducing mean time to resolution (**MTTR**) by 50% through proactive anomaly detection.
- Collaborated with US-based client stakeholders across time zones in Agile sprints, consistently delivering features on schedule with clear written and verbal communication.

Capgemini

Dec 2018 – Mar 2019

Java Software Trainee Intern

Chennai, India

- Developed and modified Java-based modules under guidance, following OOP and modular design principles.
- Built Angular UI components and connected them to backend REST services.
- Assisted in debugging, testing, and resolving defects across frontend and backend layers.
- Worked with the team in an Agile environment and used version control for collaboration.
- Supported documentation and implementation of feature updates.

RESEARCH & ACADEMIC PROJECTS

AI-Powered RAG Chatbot with Tool Calling

Aug 2024 – May 2026

Capstone Project – Kennesaw State University | github.com/johnpranoy7/RagToolAgentChatbot

- Architected and deployed a **production-grade** conversational AI system using **Spring AI** and **RAG**, incorporating an **LLM-as-Judge** evaluation layer to automatically score and filter responses for faithfulness – measurably reducing hallucinations and directly addressing a core reliability gap in enterprise AI adoption.
- Engineered **tool-calling** (agentic function calling) so the chatbot autonomously invokes external **REST APIs** based on user intent, transforming it from a static Q&A bot into an action-capable AI agent.
- Designed a high-throughput **vector embedding pipeline** using **pgvector** and **Pinecone**, enabling semantic similarity search across large document corpora with sub-second retrieval latency.
- Built and shipped end-to-end: **Spring Boot** backend, **React** frontend, **Docker** containerization, and **AWS** deployment – full production stack, not just a demo or notebook prototype.

Spectrum-Based Fault Localization (SBFL) Research

Graduate Research Assistant – Kennesaw State University | github.com/johnpranoy7/JFreeSBFL

- Implemented SBFL techniques (Tarantula, Ochiai) in **Java** to automate fault detection across large-scale codebases.
- Developed a **Maven** plugin integrating **PITest** mutation testing with SBFL formulas, fully automating fault analysis for multi-module Java projects.
- Generated ranked CSV reports of suspicious code locations, reducing estimated developer debugging time by ~40%.

Virtual Reality Consumer Behavior Study

Graduate Research Project – Kennesaw State University

- Co-authored research published at **ACM VRST '25** on VR-based shopper shelf perception analytics for planogram design.
- Co-authored **IEEE INFOCOM 2025** workshop paper on RAG-driven 3D VR question answering at the edge.
- Developed an immersive virtual retail store in **Unity (C#)** to simulate real-world shopping behavior and capture granular user interaction telemetry.
- Processed and analyzed VR behavioral data to surface actionable insights on consumer decision-making patterns.

EDUCATION

Kennesaw State University

Aug 2024 – May 2026

Master of Science in Software Engineering

Atlanta, GA

- **Graduate Teaching Assistant (GTA)**: Secondary instructor for undergraduate **Python** programming course – led lab sessions, provided code reviews, and supported student learning outcomes.
- **Graduate Research Assistant (GRA)**: Contributed to two active research tracks – **SBFL fault localization** (Maven plugin development in Java) and **Unity VR** consumer behavior study (published at ACM VRST '25 and IEEE INFOCOM 2025).

CERTIFICATIONS

AWS Cloud Practitioner, Amazon Web Services – in progress

Angular Certification Level 1, Angular Training – Verify

Oracle Certified Java SE Developer (OCJP), Oracle