# Visruta Saripella

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## Summary

A Software Engineer with **over 3 years** of experience in full-stack development, expertise in AI/ML integration and cloud deployment. Proven ability of delivering scalable, intelligent applications through microservices, CI/CD pipelines that drive business value.

## Educations

**Master's in computer science**, Virginia Tech, USA 08/2023 - 12/2024

**Coursework:** Cloud Engineering, Computer Networks, Advanced Data Structures and Algorithms, Agile Project Management, Distributed Operating System Principles, Web Development, UI/UX Design

## Skills

**Programming Languages & Scripting:** Java, Python, Golang, C, C++, JavaScript, TypeScript, HTML, CSS

**Frameworks & Libraries:** React.js, Angular, Node.js, Express.js, Spring Boot, jQuery, Supabase, REST APIs, Microservices, JUnit

**Machine Learning:** Pandas, NumPy, PyTorch, TensorFlow, Scikit-learn, OpenAI Gym, Matplotlib, Apache Spark

**Databases:** PostgreSQL, MySQL, MongoDB,DynamoDB, SQL Server, Oracle, Redis

**Cloud & DevOps:** AWS, Azure, Docker, Kubernetes, Jenkins, Ansible, CI/CD Pipelines, Linux, UNIX

**Additional Technologies:** Git, GitHub, Maven, Gradle, YAML, Karma, Jasmine, Jupyter Notebook, Hadoop, Elasticsearch, Logstash, Kibana (ELK Stack), Grafana, Swagger, Jira, Kafka

## Work Experience

**Software Developer at Virginia Tech.** 02/2024 – Present

- Developing a production-grade AI assistant, integrating LLM-powered with RAG for real-time, personalized student guidance across academic and campus services.
- Implemented real-time status tracking with visual progress indicators using Angular (frontend), Spring Boot (backend), and MongoDB (database) to manage form data, user roles, and multi-stage approval workflows.
- Deployed on AWS using Docker/Kubernetes, optimizing response times to sub-150ms, ensuring scalability, high availability, and a 40% improvement in student engagement through real-time contextual knowledge retrieval.

**Research Assistant at Virginia Tech** 09/2023 – 12/2024

- Architected a high-throughput Kafka-based event streaming pipeline processing 200K+ traffic events/minute, leveraging GraphQL for efficient data fetching across distributed transportation systems.
- Spearheaded fault-tolerant Java microservices with circuit-breaking patterns that maintained 99.95% uptime for critical traffic management functions during system migrations.
- Optimized BigData processing workflow using Apache Spark and custom indexing algorithms, reducing query latency from 12s to 300ms for real-time route optimization calculations.
- Engineered a GraphQL federation layer that unified 7 disparate transportation APIs with strongly typed schemas, enabling type-safe data consumption and reducing frontend-backend integration issues by 87%.

**Software Engineer in LTIMindtree** 05/2021 - 07/2023

- Built scalable microservices architecture handling 2M+ daily requests with 90% uptime, reducing API response time and improving overall application performance through database tuning (Oracle & MySQL).
- Led end-to-end development of an Extended Care Management System and a secure CSOS validation platform, streamlining patient care and order processing, driving operational efficiency and $1M+ in revenue.
- Built React-Redux dashboards with TypeScript, boosting user engagement by 40%, and implemented CI/CD with AWS, Docker, and Kubernetes to enable zero-downtime deployments and cut release times by 70%.
- Enhanced system observability by implementing ELK stack (Elasticsearch, Logstash, Kibana), improving real-time monitoring and reducing incident resolution time by 35%.

## Projects

**Hokie Event Sphere – AI-Powered Event Management Platform** 08/2024 - 12/2024

- Built a hybrid recommendation system (LightFM + BERT) for 10,000+ students, achieving 92% precision@10 and solving cold-start issues through metadata-driven event matching.
- Orchestrated a microservices architecture with a React.js frontend, Node.js backend, integrating click stream analysis, and an AI-powered recommendation system leveraging a LLM, achieving 90% accuracy in event recommendations.

**Deep Reinforcement Learning (DRL)-Based Intrusion Response System (IRS)** 05/2024 - 09/2024

- Designed and trained an end-to-end DRL solution, leveraging PPO and DQN to automate defense decisions against DoS.
- Integrated PyTorch and federated learning simulations to enable adaptive, real-time threat mitigation, achieving a 40% reduction in attack success rate over utility-based baselines.

## Certifications

- AWS Certified Developer Associate 05/2024 - 05/2027
- AWS Certified Solutions Architect Associate 02/2024 - 02/2027

## Achievements

- Achieved 2 national gold medals in swimming competitions across India. 10/2018 - 10/2019