Nikitha Bogala

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Education

Arizona State University, Ira A. Fulton Schools of Engineering — **Tempe, USA**
Master of Science in **Computer Science** | GPA: **3.9/4.0** — Jan 2024-June 2025

Chaitanya Bharathi Institute of Technology — **Hyderabad, India**
Bachelor of Technology in **Computer Science and Engineering** | GPA: **9.1/10.0** — July 2017-June 2021

Experience

Barclays — **Pune, India**
Full Stack Developer, Global Markets Post Trade | ***Java, Spring Boot, Kafka, SQL*** — June 2022 - Dec 2023

- Led the migration of legacy securities trade processing applications to a Java/Spring Boot microservices architecture, improving transaction speed by 30% and ensuring seamless integration with SWIFT messaging protocols.
- Engineered a high-performance, distributed back-end system using Java, Spring Boot, and Kafka as a message broker for real-time data ingestion and low-latency processing of securities trades.
- Developed an automated payments workflow leveraging IBM MQ for reliable messaging, OAuth 2.0 for secure authentication, and JSON validation, reducing manual processing by 40%.
- Collaborated with operations, risk, and compliance teams to implement security controls including encryption at rest/transit and RBAC integration, resulting in 35% reduction in vulnerabilities identified during penetration testing.

Verizon — **Hyderabad, India**
Junior Software Engineer | ***Java, Spring Boot*** — June 2021 - June 2022

- Developed scalable microservices using Java 11 and Spring Boot enabling real-time processing of 50k-100k transactions per second with 99.99% uptime for telecommunications systems.
- Engineered secure data ingestion pipelines using RESTful APIs with OAuth2 authentication and custom validation logic, reducing integration errors by 25% and improving data integrity.
- Implemented containerization strategy with **Docker** and established **CI/CD pipelines** through Jenkins, automating build, test, and deployment processes that reduced release cycles from days to hours.

Projects

Movie Search Application | *ASP.NET, C#, WCF, XML, API Integration* | **Github** — **Jan - May 2024**

- Developed responsive entertainment web application leveraging ASP.NET MVC architecture with asynchronous API calls for real-time movie data retrieval and trailer streaming.
- Implemented secure user authentication and session management using cookies and password encryption, incorporating Role-Based Access Control (RBAC) for distinct user and staff privileges.
- Designed modular WCF services using Repository pattern for data access abstraction and N-tier architecture, enabling efficient third-party API integration and stateless session management.

Cloud-Based Face Recognition Pipeline | *AWS, Docker, FastAPI,Lambda,SQS*| **Github** — **Aug-Dec 2024**

- Deployed a real-time face recognition model on AWS EC2 using FastAPI for scalable inference processing.
- Implemented message-based architecture with AWS SQS for asynchronous workload distribution, reducing processing bottlenecks and enabling horizontal scaling under variable load conditions.
- Implemented auto-scaling for EC2 instances based on SQS queue length, utilizing custom AMIs based provisioning.
- Containerized application with Docker, stored images in AWS ECR, and utilized AWS Lambda for serverless execution.

Monte Carlo Tree Search Agent | *Python, AI, MCTS, Reinforcement Learning* | **Github** — **Jan - May 2024**

- Implemented advanced Monte Carlo Tree Search algorithm for Pacman game environment, incorporating UCB1 exploration policy and domain-specific heuristics for optimized decision-making
- Improved performance by refining the **simulation strategy**, selecting optimal actions instead of random exploration.
- Conducted comparative analysis against **Alpha-Beta** and **Expectimax agents**, proving superior strategic efficiency.

Temporal Decomposition using LLMs | *Python, LLaMA 3.1, NLP, Temporal Graphs* | **Github** — **Aug - Dec 2024**

- Developed a **multi-step inference pipeline** integrating **CoT prompting**, symbolic reasoning, and temporal graph construction to enhance LLMs ability to infer event sequences, durations, and dependencies in unstructured data.
- Engineered robust preprocessing, normalization, and evaluation techniques, leveraging Exact Match and F1-score metrics

Technical Skills

Languages: **C, C++, Java, Python,R**, JavaScript, Go, MATLAB, R, HTML5, CSS, **SQL/NoSQL**
Technologies: J2EE (Servlets, JSP, JDBC), Spring Boot, Core Java, Microservices, Distributed Systems, JUnit,Mockito,Apache Tomcat,Robot,Selenium, ,XML, OOPS, Data Structures Algorithms, Cassandra, Docker, Kubernetes, Linux/Unix, Shell Scripting, Kafka, REST APIs ,Agile.