SOWMYA SIVARAMAKRISHNAN

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TECHNICAL SKILLS

Languages & Databases: Java, Python, C++, R, SQL, Node JS, React JS, Javascript, XML, HTML, CSS, MySQL (SQL), MongoDB (NoSQL)
ML Tools: scikit-learn, LSTM, RNNs, MTCNN, OpenFace
Frameworks & Tools: Spring Boot, Docker, Kubernetes, Microservices, Postman, GraphQL, Github, Git CI/CD, Django, REST API, Selenium, JUnit, JIRA, Splunk, Grafana, Kafka

EDUCATION

University of Texas at Dallas, *Richardson, Texas* — *May 2025*
Master of Science, Computer Science — GPA: 3.7/4.0

SRM University, *Chennai, Tamil Nadu* — *Mar 2020*
Bachelor of Technology, Computer Science and Engineering — GPA: 9.07/10.0

WORK EXPERIENCE

Sr. Full Stack Developer **| Bank of New York Mellon** — *May 2022 - Jul 2023*

- Developed REST APIs for 25+ apps using **Java** and **Spring Boot**, optimizing message formats, and reducing processing time by 30% across downstream systems while improving data throughput and reducing latency.
- Worked on migrating all payment processing services from SWIFT to ISO20022 standards.
- Identified security vulnerabilities and wrote **Python** recon scripts, boosting system reliability and performance by 30% and cutting downtime by 25% with enhanced real-time threat detection.
- Created a machine learning module in **Python** to flag 1,500+ fraudulent transactions with 92% accuracy, reducing false positives by 20% for better fraud prevention.
- Orchestrated **Docker**-based applications and integrated them into a CI/CD pipeline, automating builds and reducing release cycles by 50%, ensuring consistency across environments.
- Refined the **microservices** framework with **Spring Boot** and **Docker**, enabling faster development cycles and improving team productivity by 30% through modular, independently deployable services.
- Collaborated cross-functionally with product and design teams to deliver end-to-end scalable solutions and improve overall code quality through automated testing and performance optimization.

Software Developer **| Bridge Solutions Group** — *Jan 2020 - Mar 2022*

- Automated order reassignment module in Fluent OMS using **Java & Spring Boot**, cutting fulfilment delays by 40%, losses from faulty warehouse assignments by 35%. Executed a pagination logic fixing 60% of client-reported issues, stabilizing the product.
- Refactored legacy code in the OMS, enhancing maintainability and scalability to handle approximately 50,000 concurrent orders.
- Built the Click and Collect workflow (sourcing, fulfilment, cancellation, reassignment, returns) from scratch, enabling seamless omnichannel fulfilment. Optimized order sourcing, cutting processing time by 30%. Wrote a **Selenium** regression test suite with 300 cases and 76% test case reusability.
- Architected and optimized **GraphQL** APIs, reducing latency by 40% and improving high-traffic data retrieval.
- Customized **React**-based frontend for Palacio, streamlining order tracking. UI enhancements reduced order lookup time by 35%, improving store managers' efficiency in handling high-volume orders.
- Designed and delivered high-quality, scalable, and maintainable backend solutions integrated with caching and data processing pipelines.

PROJECTS & PUBLICATIONS

Facial Recognition Using Neural Networks

- Developed a face detection and recognition app using **MTCNN**, **OpenFace**, and **k-NN classifier**, achieving a **95% recognition accuracy** in identifying faces from a dataset of 500+ individuals.
- Paper Published: "Facial Recognition Using Convolutional Neural Networks" in IJRET, Vol. 5.

E-Commerce Backend API Development

- Engineered robust backend APIs using Java and Spring Boot for an e-commerce platform, handling 500+ transactions per minute while ensuring system uptime of 99.9%.

Retail Inventory Management Using Object Detection

- Implemented Faster R-CNN for real time object detection from video surveillance of aisles in retail outlets in order to automate inventory management and identify stock out conditions.
- Paper Presented: "Retail Inventory Management Using Object Detection" in ICOEI conference, 2019.

Air Quality Prediction

- Designed an air quality prediction system using **LSTM**, trained with **Backpropagation Through Time**, achieving **92% accuracy** in predicting air quality index (AQI) based on real-time environmental data.