Vijay Murugan Appavu Sivaprakasam

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Software Engineer with 2+ years of industry experience in building scalable systems using Java and Python, with expertise in AI/ML driven solutions. Passionate about designing optimizing backend performance, reliability, and production-ready architectures

EDUCATION

Master's in Computer Science (Artificial Intelligence), Texas A & M University | (3.67/4 GPA)   Aug 2025 – May 2027
Bachelor's in Computer Science, PES University | (8.7/10 GPA)   Aug 2019 – May 2023

SKILLS

Programming Languages: Java, Python, Rust, SQL, HTML/CSS, JavaScript, TypeScript
Frameworks and Databases: Spring Boot, Spring, Flask, Fast API, DynamoDB, Oracle DB, MongoDB, MySQL, PostgreSQL
Machine Learning: NumPy, Pandas, Scikit-learn, PyTorch, W&B, AWS SageMaker, GenAI, SAM, RAG
Tools: Git, Postman, GitHub Actions, Jenkins, MCP, Linux/Unix, MVC, Maven, Rest API, Bitbucket, Gemini, Swagger, JWT, Firebase, Splunk, Sumo Logic, JIRA, Azure, cursor, GitHub copilot
Cloud: AWS Lambda, AWS S3, Docker, Kubernetes, CI/CD, AWS CloudFormation, AWS Cloudwatch
Other: Team Leadership, Communication, Scrum, Agile, Project Management, Kanban

EXPERIENCE

GoTo   Jun 2023 – Aug 2025
Software Development Engineer   Bangalore, India

- Led Java and Spring Boot microservices development to redesign payment failure-handling workflows, recovering 70% of failed payments and driving an 8% combined revenue uplift through partial-payment enablement and API reliability improvements
- Migrated 2M+ records from MySQL to DynamoDB using a multithreaded Spring Boot job, optimizing data access patterns and reducing user duplication by 30% through tenant-aware API orchestration with GDPR compliance
- Implemented OAuth 2.0–based authentication and role-based authorization across REST APIs using internal SDKs, securing access for 5,000+ daily users and eliminating unauthorized requests
- Developed backend analytics logic to analyze customer behavior and identify churn signals, improving retention rates by 30% through data-driven service enhancements across product lines
- Designed and tested an address-verification service integrated into backend workflows, reducing fraud and manual reviews by 10% while maintaining 98% accuracy via unit and end-to-end integration testing
- Integrated external vendor systems (PAX8 Marketplace, NetSuite) through RESTful APIs and automated invoice reconciliation pipelines, contributing to a 5% increase in sales revenue by improving payment-to-invoice matching accuracy
- Tech Stack: Java, Spring Boot, DynamoDB, MySQL, Docker, REST APIs, JUnit, Git, Jenkins, Mockito, AWS, EasyMock

GoTo   Jan 2023 – Jun 2023
Software Development Engineering Intern   Bangalore, India

- Built a scalable FastAPI-based address validation microservice in Python supporting 10+ internal systems, achieving 98% accuracy and serving 1,000+ daily users with pytest-driven unit and integration testing
- Implemented 15+ real-time monitoring dashboards using Splunk and Sumo Logic to track service errors and revenue-impacting events, reducing incident response time by 40%
- Deployed 10+ containerized microservices via Docker and Jenkins CI/CD pipelines, accelerating release cycles by 30% and reducing downtime by 10% through improved rollback and recovery workflows
- Tech Stack: Python, Fast API, Docker, AWS, Splunk, Sumo Logic, Telemetry Kibana, pytest

PATENTS & PUBLICATIONS

Government of India Patent Certificate - Smart Shopping Trolley - Indian Patent Number: 555691

Automated Shopping Cart: Reducing Long Queues One Cart at a Time - International Conference on Smart Data Intelligence

PROJECTS

Smart Shopping Cart (Java, Python, ML, IoT) | GitHub

- Built a smart shopping cart leveraging Arduino load cells for real-time weight detection with 98% precision and an ML-powered Android app in Java. Classified 80+ grocery items using EfficientNetV2 and MobileNetV2 models with 95%+ accuracy

Visual SketchPad Implementation and Benchmarking (Python, OpenAI, Gemini, Stable Diffusion) | GitHub

- Integrated ChatGPT and Google Gemini with Stable Diffusion using a Visual chain of thought framework comparing the benchmarks against GPT-4o, GPT-3.5-mini, Gemini-2.5-Flash, and BLIP-VQA on medical reasoning tasks, achieving a 10% boost

Intelligent PDF Content Enhancer (Google Gemini LLM, Fast API, TypeScript, React, Vite) | GitHub

- Engineered an AI PDF analyzer with Google Gemini to generate enhancement suggestions and percentage relevance to a target description, powered by a Fast API backend and a TypeScript + React (Vite) frontend for real-time, intuitive optimization.