

# Akash Shanmuganathan

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## Skills

**Programming Languages:** Java, Python, Kotlin, JavaScript, SQL, C#

**Tools and Frameworks:** Spring Boot, FastAPI, Selenium, Mocha, JUnit, Jenkins, Postman, TestNG, Pandas, LightGBM, SHAP

**Platforms and Infrastructure:** Docker, GitHub Actions, Jenkins, Android, Vercel

**AI/ML Techniques:** Credit Scoring, Explainable AI (SHAP), Anomaly Detection, Data Validation Pipelines

**Domain Knowledge:** Fintech, Agile & Scrum, Software Lifecycle Ownership, QA Automation, Embedded Systems

## Projects

### AI-Driven Credit Risk Scoring & Fraud Detection

*ML Engineer / Backend Developer | FastAPI, LightGBM, SHAP, Streamlit, Docker*

- Delivered 85%+ AUC credit scoring model using LightGBM and deployed real-time explainable predictions via FastAPI and SHAP, enhancing lender trust.
- Reduced fraud investigation effort by 50% by building interactive Streamlit dashboards for auditors to explore model outputs and risk scores.

### FinSight – Personal Finance GPT Assistant

*Full-Stack Developer | React, Flask, PostgreSQL, OpenRouter GPT, Chart.js*

- Enabled tailored financial advice by integrating GPT API with Flask backend and PostgreSQL data, improving user retention through insights.
- Reduced time-to-visualization by 80% by building a responsive React dashboard with Chart.js and deploying on Vercel.

## Experience

### Hexaware Technologies

Chennai, TN, India

*Software Engineer*

Jun 2022 – Jul 2023

- Reduced SQL latency by 35% by optimizing 10+ stored procedures using MySQL, enabling faster equity index processing across 3 mission-critical financial platforms.
- Improved developer velocity and maintainability by migrating 25+ backend modules from legacy C# .NET to Spring Boot, reducing technical debt and onboarding time by 40%.
- Cut regression testing time by 30% by automating 80% of QA scenarios using Mocha, Chai, and Jenkins CI, which enabled faster, defect-free releases with 95% bug detection pre-production.
- Achieved 99.9% API delivery accuracy by developing 25+ RESTful endpoints for the index analytics platform using Java and Spring Boot, supporting seamless downstream integrations.

### Hexaware Technologies

Chennai, TN, India

*Associate Software Engineer*

Jan 2021 – May 2022

- Increased app engagement by 25% by engineering mobile banking features using Kotlin and Backbase SDK, improving customer experience in digital finance apps.
- Reduced post-release bugs by 50% by implementing unit and integration tests with JUnit and Rest Assured, raising test coverage to 85% for critical backend modules.
- Decreased manual HR workload by 40% by delivering full-stack HR and asset systems with Angular, Spring Boot, and MySQL, enabling employee self-service automation.

### Neo Technologies

Chennai, India

*Data Analyst Intern*

Sep 2020 – Dec 2020

- Automated data QA pipelines using Python and pandas, improving data integrity for public health dashboards by 30%.
- Collaborated on SQL-based ETL validation of 10K+ records/day, ensuring reliable input for downstream analytics and modeling.

## Education

Northeastern University, Boston, MA

Sep 2023 – May 2025

*Master of Science in Engineering Management*

Anna University, Chennai, India

Jun 2017 – Apr 2021

*Bachelor of Engineering in Electrical and Electronics Engineering*