# Royce Barboz

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## EDUCATION

**Stevens Institute of Technology – Hoboken, NJ, USA**
May 2026
*Master of Science in Computer Science*
**Courses:** Algorithms, Database Management System, Concurrent Programming

**ST. FRANCIS INSTITUTE OF TECHNOLOGY – Mumbai, MH, INDIA**
Jun 2024
*Bachelor of Engineering in Information Technology*
**Courses:** Cloud Computing, Data structure, Web programming

## TECHNICAL SKILLS

**Programming:** Python, JavaScript, TypeScript, HTML, CSS
**Frameworks & Libraries:** React.js, Node.js, Express.js, Next.js
**Cloud & DevOps:** AWS(EKS, ECS), Datadog, Docker, Github Actions, kubernetes
**Databases:** PostgreSQL, MySQL, Azure SQL
**Tools:** Git, Linux/SSH, Agile (Scrum, Kanban)
**AI/ML:** Retrieval-Augmented Generation (RAG), Embeddings, LLM Pipelines

## PROJECTS

**Financial RAG Analyst (OpenAI + Multi-Agent System)**
Nov 2025

- Engineered a multi-agent workflow with specialized financial, risk, and compliance agents using structured function calling, increasing task accuracy and automated coverage by 40%.
- **Refactored embedding and LLM pipeline** from SentenceTransformer + GPT-4o-mini to **OpenAI text-embedding-3-small and GPT-5-mini**, improving semantic retrieval relevance by **~25%** and reducing infrastructure overhead by **100%** by removing local GPU dependencies.
- Implemented a caching layer for SEC filings and parsed documents, reducing repeated fetch/embedding operations by 90% and lowering query latency from 30+ seconds to under 2 seconds.

**Inspectify (NYC Restaurant Health Inspector Dashboard)**
Dec 2025

- Built a scalable ETL pipeline in Node.js to process **289K+ CSV rows** into structured MongoDB documents, grouping inspection records by CAMIS and extracting latest health grades.
- Designed batch ingestion with 1,000-record chunks and created optimized indexes across six fields, improving query performance by 60% for 25K+ restaurants.
- Implemented robust data validation (date parsing, grade extraction, coordinate normalization) to ensure integrity and handle missing/invalid fields.
- Developed a modular data layer separating parsing, grouping, and DB operations, enabling clean integration with Express API routes for the full-stack team.

**F1 Telemenry Dashboard**
Dec 2025

- Implemented end-to-end observability using Datadog APM, RUM, and custom metrics across Flask backend and React frontend, reducing production issue detection time by 75% through real-time distributed tracing and performance monitoring.
- Architected containerized monitoring infrastructure with Datadog Agent and Docker Compose, instrumenting 6+ API endpoints with ddtrace for automatic span generation, enabling the team to identify performance bottlenecks in under 5 minutes.
- Integrated Datadog RUM SDK with session replay into React TypeScript application, tracking user interactions and frontend errors, resulting in a 40% improvement in error detection and resolution time.

## CERTIFICATIONS

### Oracle Cloud Infrastructure Generative AI Professional
Aug 2024

- Earned the OCI Generative AI Professional certification, mastering Oracle Cloud Infrastructure's advanced generative AI tools and techniques to design, deploy, and optimize AI-driven solutions.