

# Gokul Viswanathan

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Engineer passionate about building intelligent, reliable systems that blend enterprise-grade robustness with modern AI. Experienced in developing scalable LLM applications, RAG pipelines, and validation frameworks for complex, high-stakes environments.

## EXPERIENCE

**Software Engineer** | Patton Labs

**11/2024 - Present**

- Built a **rule-based and LLM-driven data validator** for heterogeneous sources (DB, CSV, Excel) ensuring schema consistency and clinical data accuracy, reducing manual QA effort by **60%**.
- Engineered **context memory management** by summarizing long conversation histories and caching embeddings, improving token efficiency and reducing prompt size by **35%** while preserving contextual accuracy.
- Implemented **async communication** with **Kafka** between microservices by redesigning synchronous API dependencies into event driven architecture, reducing system load and eliminating blocking call timeouts that caused processing errors.

**Technologies:** Python, LangChain, OpenAI API, Pinecone, TypeScript, Pandas, React, MongoDB, Kafka.

**Software Engineer** | Stealth Startup

**03/2024 - 10/2024**

**SAGE MONEY:** Early stage **fintech application** for transaction analysis and family budget management.

- Architected multi-tenant system with **role based access control** for family account sharing, implementing secure authentication flow with **OAuth 2.0** and encrypted storage of sensitive financial data using AES-256.
- Integrated **Plaid API** for bank connectivity, building transaction synchronization pipeline that processed and categorized transactions using rule based logic for subscription detection and spending analysis.
- Developed **RESTful API** with Node.js/Express and PostgreSQL database schema optimized for multi-account queries.

**Technologies:** TypeScript, React Native, Expo, NodeJS, ExpressJs, Ava, Postgres, Redis, DigitalOcean.

**Software Engineer** | Accenture

**06/2019 - 07/2022**

**REGISTRATION PORTAL:** An enterprise scale **COVID site and employee management platform** handling **50K+ daily Active Users** across 300+ office locations with 99.9% uptime.

- Streamlined automated approval workflow system reducing processing time from **24 hours to 10 minutes**, resulting in **85% improvement** in employee satisfaction and **40% reduction** in administrative overhead.
- Built **real time contact tracing service** using **event driven architecture** to process **5K+ daily proximity events**, identifying and notifying **1,000+ potential exposures** within 15 minutes of confirmed cases
- Automated **secure vaccination tracking** system with **AWS S3** document storage and ensuring HIPAA compliance.
- Integrated Apple Wallet pass generation system processing **3K+ daily passes**, reducing **authorization time**.
- Enhanced suite of **20+ RESTful APIs**, handling **100K+ daily requests** with optimized performance.
- Engineered **analytics dashboard** providing live office capacity visualization for **300+ locations**.

**Technologies:** Javascript, React, Redux, Jest, Java, Springboot, AWS, JUnit, Mockito, Postgres.

## TECHNICAL SKILLS

<b>Languages &amp; Databases:</b>	Java, Python, GoLang, Rust, TypeScript, MongoDB, PostgreSQL
<b>Frameworks:</b>	Spring Boot, Flask, ReactJS, NodeJS, ExpressJS, PyTorch, Gin, Tailwind, Redux, Zustand
<b>Cloud &amp; Tools:</b>	GCP, AWS, DigitalOcean, Docker, Git, Maven, Github Actions.
<b>Certifications:</b>	<a href="#">SQL for Data Analysis</a> , <a href="#">“Learning Kubernetes” by Kim Schlesinger</a>

## PROJECTS

**Though Ink** | GoLang, Gin, Typescript, React.Js, Next.JS, Zustand, Tailwindcss

**Current**

- Built AI powered notes app using Gemini API for summarization and GitHub API for file storage, enabling intelligent note management with cloud persistence.

**Rust-based Data Anonymizer Library** | Rust, Python, Regex, spaCy, UUID

**2025**

- Built a **Rust-based anonymization library** combining **regex** and **NER** for entity detection and UUID-based replacement, with **Python** and **JavaScript** wrappers for RAG pipelines and LLM preprocessing workflows.

## EDUCATION

**Master's of Science (Engineering Science)**, University at Buffalo

**08/2022 - 01/2024**

**Course work:** Machine Learning, Reinforcement Learning, Computer Vision & Robotic Algorithm

**Bachelor's of Technology (Information Technology)**, Anna University

**07/2015 - 04/2019**

**Course work:** Cloud Computing, Machine learning, Data Structures & Algorithms