

# SURYAANSH RATHINAM

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## PROFESSIONAL SUMMARY

AI Engineer and Full-stack Developer specializing in production-ready ML systems and scalable web applications. Proven experience developing end-to-end AI solutions including speech processing pipelines, natural language interfaces, and RAG systems for enterprise clients. Strong expertise across the development stack with a focus on delivering intelligent solutions from concept to deployment.

## EDUCATION

<b>National University of Singapore</b> Masters of Computing (AI Specialization) • Teaching Assistant: Cloud Computing, Software Engineering Principles and Patterns	<b>Aug 2024 - Dec 2025</b> GPA: 4.63 / 5
<b>Manipal Institute of Technology</b> BTech, Computer Science Engineering	<b>Sep 2020 - Jul 2024</b> GPA: 9.47 / 10

## SKILLS

- **Artificial Intelligence:** RAG, Computer Vision, Model Fine Tuning, NLP, Vector Databases.
- **Programming Languages:** Python, C, C++, Java, JavaScript, Typescript
- **Database Systems:** MongoDB, MySQL, Redis, Postgres, TypeORM, ChromaDB, Pinecone
- **Full-stack Development:** React, Next, Vue, Angular, Node, Express, Nest, PHP, Django, FastAPI.
- **Cloud and Devops:** AWS, Firebase, Git, Docker, GCP
- **Others:** Selenium, Appium, Excel

## WORK EXPERIENCE

AI Developer | DatalensAI

May 2025 – Jul 2025 | Remote

- Engineered a **diarization and transcription pipeline** for large-scale customer service calls using **Whisper**, improving speech-to-text accuracy through fine-tuning on labeled datasets.
- Built a **Natural Language to SQL (NL2SQL) interface**, enabling plain English database querying with **PostgreSQL** and **SQLAlchemy**.
- Designed an **end-to-end querying pipeline** to parse schema, generate, execute, and return SQL query results.
- Deployed **containerized microservices** with **FastAPI** and **Streamlit** for internal enterprise use.

**Tech Stack:** Python, Whisper, PyTorch, HuggingFace Transformers, FastAPI, PostgreSQL, SQLAlchemy, OpenAI API.

Full Stack Developer | Moneyflo

Mar 2023 – Jul 2024 | Remote

- Developed **REST API endpoints** and enhanced UI/UX for a financial intelligence platform optimizing e-commerce profitability.
- Built an **AI Assistant** with **OpenAI API** to deliver actionable financial insights to clients.

**Tech Stack:** NextJS, Sass, AntD, FastAPI, NestJS, TypeORM, Postgres, AWS.

QA Automation Engineer | Ridecell

May 2022 – Aug 2022 | Bengaluru, India

- Automated test cases using **Selenium & Appium** and integrated them into CI/CD pipelines, improving test coverage and efficiency.

**Tech Stack:** Python, Pytest, RestAPIs, Selenium, Appium, Testrail.

## PROJECTS

**Distributed Maze Runner: A Fault-Tolerant Peer-to-Peer Game System** ([Link](#)) **Oct 2024**

Implemented **multi-threaded** server logic with dynamic server swapping for continuous operation, handling player crashes and asynchronous movements. Used **TCP/Java RMI** for reliable messaging and constructed a tracker-based player registry to enhance peer discovery and reduce system load, demonstrating fault-tolerance in gaming.

**Document and Video Q&A RAG System** ([Link](#)) **Feb 2025**

A web app for uploading PDFs and YouTube videos, processing them into chunks, and interacting via chat using **RAG**. Uses MongoDB for document storage, **Pinecone** for vector retrieval, and **OpenAI API** for responses. Features include document/video processing, **vector storage**, and a **chat interface** for **querying**.

## PUBLICATIONS

- Exploring IoT-Blockchain Integration in Agriculture: An Experimental Study - Published in IEEE Access ([Link](#))
- Survey of the use of AI models and techniques in the analysis and prediction of neuro-degenerative diseases- Presented at AICECS 2023 and Published in IOP: Journal of Physics (Volume 2751) ([Link](#))
- Analysis and Comparison of Different Frontend Frameworks- Presented at ATIS 2022 and Published in Springer's CCIS Series (Volume 1804) ([Link](#))