

Vetrivel Maheswaran

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SUMMARY

AI Engineer and graduate student specializing in applied machine learning, NLP, and data analytics. Experienced in developing AI agents, RAG pipelines, and analytics solutions using Python and modern ML frameworks to solve real-world business and risk-driven problems.

EDUCATION

Rochester Institute of Technology

Rochester, NY

M.S., Information Technology and Analytics – GPA: 4.0/4.0

Jan 2025 – May 2026

Coursework: Data Analytics, Applied Statistics, Information Retrieval, Database Design and Management, IoT

R.M.K. Engineering College

Chennai, India

B.E., Computer Science and Engineering – GPA: 8.9/10

Aug 2020 – Apr 2024

SKILLS

AI & LLM: LangChain, RAG, Hugging Face, Prompt Engineering, Context Engineering, LLM Orchestration, Fine-Tuning

ML & Data: Scikit-learn, TensorFlow, Keras, NLTK, Numpy, Statistical Analysis, ETL/ELT Pipelines, Data Modeling

Languages: Python, MySQL, PL SQL, MongoDB, Neo4j

Visualization Tools: Tableau, Power BI, R, Minitab, Excel

Developer Tools: Git, GitHub, Docker, HTML, CSS, VS Code

WORK EXPERIENCE

Rochester Institute of Technology

Rochester, NY

Graduate Teaching Assistant

Jan 2026 – Present

- Graduate Teaching Assistant for Visual Analytics at RIT (GCCIS), supporting course delivery in data visualization and analytical reasoning.
- Mentored students through office hours and project guidance using Tableau, R, Gephi, and QGIS, while grading assignments and exams using structured rubrics in collaboration with the instructor.

Sungkyunkwan University

Seoul, South Korea

Graduate Research Assistant

Oct 2025 – Dec 2025

- Reduced hallucinated and invalid security policies by improving syntactic correctness to 80% using prompt ensembling, evaluated on 50 I2NSF policy intents.
- Achieved up to 97% intent classification accuracy and higher schema compliance by validating intermediate outputs against the I2NSF YANG model using yanglint.

Artificial Intelligence Risk, Inc – AI GRCC Platform

Connecticut, NY

AI Engineer Intern

May 2025 – Sep 2025

- Developed and deployed AI agents for client use cases in automation and retrieval-augmented reasoning.
- Optimized prompts to drive reliable automation workflows, improving agent consistency and task execution.
- Worked with AI solutions for finance and banking use cases, focusing on document classification and information retrieval to support risk assessment and compliance workflows.

PROJECTS

Hybrid Vector – Graph Retrieval for Evidence-Grounded RAG | [GitHub Repo](#)

Jan 2026 - Present

- Developed a hybrid RAG system combining vector and graph-based retrieval with reranking to reduce hallucinations.
- Implemented citation-based generation with confidence scoring to improve factual reliability and enforce evidence-grounded responses.

Linkedin AI Agent | [GitHub Repo](#)

Oct 2025 - Dec 2025

- Built a modular AI agent that generates and publishes LinkedIn posts, following strict tone and structure guidelines.
- Designed with an MCP-based architecture, integrating FastAPI, Streamlit, and LinkedIn's REST API for scalable content generation and direct posting automation.

Ticket Management System | [GitHub Repo](#)

Feb 2025 - Apr 2025

- Improved a ticket management system to replace email-based support, enforcing single-responder ownership and reducing duplicate handling.
- Implemented integrated messaging and activity logs, improving issue traceability and accelerating resolution turnaround.

CERTIFICATIONS

Generative AI in Action - IBM; ChatGPT Prompt Engineering for Developers - DeepLearningAI; Google Cloud career readiness Associate Cloud Engineer track - Google, database Management System - Infosys Springboard.