

Hemanth Shankkar Manickam

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Professional Summary

Computer Science engineer (MS in Data Science in progress) with 3+ years of professional backend and DevOps experience — REST APIs, CI/CD pipelines, Git version control, and production support across enterprise systems. Beyond using a chat assistant, **built and shipped a working AI system**: an **agentic pipeline (Claude API)** with a **two-stage RAG retrieval architecture** that improved answer accuracy from **70% to 90%**, including diagnosing and documenting a subtle model-reliability bug. Strong fundamentals in **Python and Java**, comfortable with data platforms (**Snowflake, Databricks**) and cloud infrastructure (**AWS**). Clear communicator who is eager to ramp quickly and grow into a specialization.

Technical Skills

- **Backend & DevOps**: REST API development, backend services (Java, Spring Boot, Python); CI/CD pipelines, Git version control, automated build validation; production monitoring and support
- **AI Systems (built, not just used)**: Designed and shipped an **agentic AI pipeline** with a **two-stage RAG architecture** (BM25 vs. LLM-reranked, budget-aware context packing) using the **Anthropic Claude API**; diagnosed and documented a subtle model-reliability bug
- **Data Platforms & Cloud**: **Snowflake** (materialized views, staged loading), **Databricks/PySpark** for data at scale, **AWS** (S3, EC2, VPC, RDS, IAM); MySQL, relational data modeling
- **Integrations & APIs**: REST APIs, enterprise system integrations (SAP interfaces), data validation across connected systems
- **Documentation & Communication**: Clear documentation of architecture, methodology, and limitations; comfortable working from well-scoped tickets under code review
- **NLP & Applied ML**: NLP with spaCy/scispaCy; classification and recommendation models; feature engineering

Professional Experience

Java Developer | Infosys , Bangalore, India

Jun 2024 – Aug 2024

- Delivered **backend REST API features** in **Spring Boot**, implementing endpoint logic against client specifications across the full implementation lifecycle in an **Agile/JIRA** environment.

Full Stack Engineering Analyst | Accenture , Chennai, India

Apr 2021 – Jan 2024

- **Built and maintained enterprise system integrations** — SAP inbound/outbound interfaces and REST APIs connecting internal systems and external data sources, with **CI/CD pipelines (Git)** keeping releases tested and traceable.
- **Wrote SQL and designed relational database schemas** — preparing and structuring data so records stayed accurate, consistent, and reliably retrievable.
- Applied **data validation and quality checks** to production data — verifying accuracy and completeness, and correcting inconsistent or missing records before they reached downstream reporting.
- Worked **independently from well-scoped tasks** while collaborating with business stakeholders and engineering teams — clarifying requirements, incorporating code-review feedback, and validating work carefully before release across 4 sprints.

Programmer Analyst | Cognizant , Chennai, India

Sep 2019 – Jun 2020

- Served as a **primary point of contact for incoming incidents and requests** as **L2 Production Support** on the Integration and Telematics team — triaging High- and Medium-Severity tickets and performing **root-cause analysis**.
- **Monitored scheduled processes and system health** using **IBM monitoring tools**, identifying failures and anomalies, notifying stakeholders, and recommending fixes to reduce recurring issues and maintain operational continuity.

Research & AI Projects

Context Engineering & AI Agent Course | Project

- Built and orchestrated an **AI-agent-driven pipeline (Claude)** that generates a full instructional course with interactive, offline-reproducible build-alongs from cached LLM fixtures.
- Designed a **two-stage retrieval pipeline** (BM25 vs. LLM-reranked, budget-aware context packing) that improved answer accuracy from **70% to 90%** at a fixed token budget; diagnosed a subtle reranking reliability bug and reported a “context rot” null result transparently.

Clinical NLP Copilot — Medication Safety (in progress)

- Building an **NLP pipeline** that parses clinical text and surfaces medication recommendations and safety flags for expert review, extracting medication entities from clinical notes with **Python (spaCy/scispaCy)**.

Track Recommendation System — Machine Learning | Project

- Built a **recommendation model** on a 114K-record dataset with 16 features and an 11:1 class imbalance — applying **feature engineering** and training/evaluating an **SVM (RBF)** classifier with **Python and scikit-learn** to reach 80.5% accuracy and 82% recall.

Education

University of St. Thomas, Minnesota — **MS in Data Science**

Sep 2024 – Dec 2026

PSNA College of Engineering and Technology, India — **B.E. in Computer Science & Engineering**

Aug 2015 – Apr 2019

Certifications

Gold Badge — Java & Problem Solving (HackerRank) • Python for Data Science (Infosys) • Generative AI Landscape (Infosys)