VENU KUNJESH DAVE

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SUMMARY

Computer Science graduate student passionate about software, data, ML. Delivered **production-scale features** during an **Amazon SDE internship**, including an **agentic natural-language-to-SQL assistant** piloted across multiple engineering teams. Reduced **data retrieval time by 90%** through reliable automation. Skilled in **rapid prototyping** and driving success via **clear cross-team communication**.

EDUCATION

Northeastern University (Boston, MA, USA) **Jan 2024 – Dec 2025**
Master of Science in Computer Science *GPA: 3.91/4.0*
Gujarat Technological University (Gujarat, India) **Jul 2019 - Jun 2023**
Bachelor of Technology in Computer Engineering. *CGPA: 9.51/10.0*

SKILLS

Programming & Core CS: Python, Java, Scala, C, JavaScript, R programing, SQL, Data Structures & Algorithms, System Design, Concurrency
AI / ML & LLM Stack: PyTorch, TensorFlow, Keras, Scikit-learn, Hugging Face, LangChain, CrewAI, Strands SDK, Prompt Engineering, Embeddings, RAG Systems, NLP (BERT, LLaMA, NLTK), Pandas, NumPy, Data Mining & Visualization
Data Systems & Cloud Infrastructure: AWS (EC2, S3, IAM), Docker, Kubernetes, CI/CD, MLflow, Airflow, SageMaker, Vector Databases (FAISS, Pinecone, Weaviate), SQL Optimization, NoSQL, Schema Design
Backend & Web Development: Flask, Django, REST APIs, Next.js, React, HTML5/CSS, JSON, Web Services, Agile Development
Tools & Collaboration: PyCharm, IntelliJ, NetBeans, JAVA swing, Linux, Git/GitHub, VS Code
Certification: Python Data Structures (University of Michigan, Coursera), Exploratory Data Analysis for Machine Learning (IBM, Coursera), Robotics Workshop (Falcon Robocon), Decryptor (Tech Kaushalya).

WORK EXPERIENCE

Software Development Engineer Intern
Amazon | New York, NY. **May 2025 – Aug 2024**

- **Reduced database query turnaround from days to minutes** by building an **AI-powered NL-to-SQL assistant**, enabled engineers to self-serve insights without SQL expertise across multiple internal teams**.**
- Improved reliability of LLM-generated queries by 60% through advanced prompt engineering (**few-shot prompting, chain-of-thought, and self-consistency**) and reACT-based contextual reasoning with **fallback/error recovery and a self-healing loop**.
- Streamlined complex schema access (60+ tables) by engineering a schema-ingestion pipeline using **Pydantic models** and automating join detection with **cardinality mapping**, improving query generation and optimizing join strategies **for large-scale data workflows**.
- Designed modular agent workflows **using LangChain + MCP servers**, ensuring stepwise sequential execution, state tracking between agents, error-handling checkpoints, and production-ready reliability for large-scale data systems.
- Owned end-to-end delivery (design, implementation, testing) while collaborating across teams on use cases.
- **Prototyped RAG extension** with **vector databases (FAISS, Pinecone)** to explore expansion beyond SQL toward knowledge retrieval

Project-Based Intern
Stackcodie | India **Feb 2023 – May 2023**

- Delivered a basic web application with a 20% improvement in processing speed by developing back-end services in **Flask** and integrating with the front end, resulting in smoother performance for end users**.**
- Increased code reliability by reducing reported bugs during testing by ~15%, through debugging and iterative fixes.
- Supported a 3-member team to meet project deadlines by contributing to API design, testing, and deployment tasks.

Data Science Intern
InfoLabz, | India **Jun 2022 – Jul 2022**

- Improved data accuracy by cleaning and standardizing large datasets using **Python (Pandas) and SQL**, enabled more reliable analysis.
- Reduced manual effort by ~30% by automating recurring data processing tasks with Python pipelines.
- Presented insights to stakeholders through dashboards/visualizations, influencing key strategic decisions and contributing to a 25% increase in overall project adoption and usage.

PROJECTS

Bookshelf Reader: AI-Powered Book Detection and Personalized Recommendations. **Sep 2024 – Nov 2024**

- Developed an AI pipeline for bookshelf image detection and personalized book recommendations, achieving **95% detection accuracy**.
- Built robust models by combining **CNNs, custom neural networks, and BERT semantic embeddings** with pretrained LLaMA 3.2 Vision models, achieving improved accuracy and stronger context-aware recommendations**.**
- Automated dataset preparation (cleaning, metadata standardization, embedding generation, train/validation splits) to improve training efficiency and accuracy, while reducing manual overhead during experimentation.
- Configured a **reproducible Conda environment** integrating PyTorch and TensorFlow, streamlined collaboration and experimentation.
- Deployed an interactive Streamlit app, enabled real-time scanning, book detection, and personalized recommendations for users.

Fake News Detection Using Machine Learning (Python, NLP, Deep Learning). **Aug 2024 – Sep 2024**

- Built and trained deep learning models (**RNN, LSTM**) for fake news classification, improving accuracy by **25%** compared to baseline models and strengthening overall detection reliability in experiments**.**
- Processed and analyzed a dataset of **10,000+ news articles** using NLP techniques, boosting data efficiency and model performance by **20%**.
- Designed and tested feature engineering strategies enabled better model tuning and reduced overfitting.
- Created **15+ visualizations** to identify patterns and key linguistic indicators, supporting stronger feature selection and insights.

Stock Market Investment Simulator and Strategy Tool (Java, Alpha Vantage API, MVC Architecture) **Jan 2024 – Apr 2024**

- Developed a stock market simulator in **Java** using the **Alpha Vantage API**, processing 500+ transactions to help users practice investment strategies and better understand market dynamics**.**
- Implemented **dynamic portfolio management and stock trend analysis**, enabled users to simulate real-world investment scenarios.
- Designed and built a Java Swing UI, provided an interactive and user-friendly experience for portfolio visualization and trade execution.
- Structured the application using **MVC architecture**, ensuring scalability, maintainability, and support for future feature expansion.