Daniel Ravi

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Summary

Computer Science graduate from Pennsylvania State University, aspiring to be a **Software Engineer**, with hands-on experience in **full-stack development** using **Spring Boot, FastAPI, ReactJS**, and **PostgreSQL**. Proficient in **Machine Learning**, **LLMs** and **NLP**, with strong backend and API integration skills.

Education

The Pennsylvania State University — **Pennsylvania**
Master of Science in Computer Science and Information Systems; CGPA: 3.56/4.0 — *Aug 2023 – May 2025*

Andhra University College of Engineering — **Visakhapatnam, India**
Bachelor of Technology in Information Technology; CGPA: 3.78/4.0 — *Sept 2019 – Apr 2023*

Skills Summary

Programming Languages: Python, JavaScript, C++, Java, SQL, Bash

Frameworks/Libraries: Spring, Node.js, Express.js, FastAPI, Django, Flask, React

Cloud/DevOps: AWS, Azure, GCP, Docker, Terraform, Jenkins, GitHub Actions, CI/CD

Databases/Big Data: PostgreSQL, DynamoDB, Redis, MongoDB, Apache Spark, Hadoop

AI/ML: TensorFlow, PyTorch, Machine Learning Fundamentals, Data Engineering (ETL, Data Pipelines)

Security/Architecture: OAuth2, JWT, Microservice Architecture, Data Encryption, API Security

Core Competencies: Data Structures & Algorithms, System Design, OOP, Distributed Systems, Debugging, Documentation

Professional Experience

Software Engineer — **State College, PA**
Penn State University — *Aug 2023 - May 2025*

- Migrated monolithic legacy system to **Spring Boot microservices** with **Docker**, improving horizontal scalability by 60%and reducing deployment failures.
- Optimized **RESTful API** response times by **35%** through **Redis caching** and **Elasticsearch** integration for dynamic query handling.
- Automated **CI/CD pipelines** using **GitHub Actions** and **Terraform**, reducing deployment cycles from **45 minutes** to **8 minutes**.
- Designed **OAuth2/JWT authentication** for 8 cross-platform applications, eliminating **60%** of security vulnerabilities.
- Architected **AWS Lambda**-based serverless reporting tools, cutting cloud infrastructure costs.

SDE Intern — **Hyderabad, India**
Quantela Inc. — *Jan 2023 - Jul 2023*

- Developed **React.js** frontend and **Node.js** backend for a **P2P payment app**, processing **daily transactions** with **99.98% uptime**.
- Reduced **PostgreSQL** query latency from **1.2s** to **180ms** by optimizing indices and introducing **Materialized Views**.
- Containerized **14 microservices** using **Kubernetes**, achieving **99.9% uptime** during peak traffic of users.
- Implemented **WebSocket**-based real-time notifications, improving user engagement metrics by **25%**.
- Created cloud-native applications leveraging **AWS Bedrock**, **API Gateway**, and **Lambda** with **RAG** (Knowledgebases) to automate manual workflows by product development managers, reducing operational workload by **72%** via a user-friendly interface.

Software Engineering Intern — **Bangalore, India**
Immensphere Pvt. Ltd — *Mar 2022 - Jul 2022*

- Developed **hybrid ML models** using **Scikit-learn** and evaluated them using accuracy, precision, and F1-score, achieving up to **92% model accuracy** on internal datasets.
- Migrated on-premise infrastructure to **AWS EC2/S3** via **Terraform**, cutting monthly hosting costs.
- Automated testing suite coverage from **65%** to **98%** using **JUnit** and **Selenium**, decreasing post-release bugs by **70%**.
- Designed **DynamoDB** schemas for high-velocity **IoT** data ingestion, improving query efficiency by **50%**.
- Built **CI/CD** pipelines for NLP models using **GitHub Actions**, automating retraining and validation steps.

Projects

Enhancing Knowledge Graphs with LLMs: A Zero-Shot Approach | *Python, LLM, NLP, Transformer, BERT, SpanBERT*

- Engineered an AI pipeline for zero-shot knowledge graph completion using **SpanBERT** on the **MALT dataset**, boosting performance by **51%**.
- Implemented **few-shot learning** strategies to enhance model robustness, accuracy, and generalization across tasks.
- Configured API's for real-time knowledge extraction, reducing manual processing efforts by **35%**.

LLM-Powered Document Retrieval System (RAG) | *OpenAI API, LangChain, FAISS/Pinecone, Streamlit, AWS*

- Constructed a document retrieval system using Retrieval-Augmented Generation (RAG) architecture by integrating OpenAI embeddings with vector databases such as FAISS and Pinecone to enable real-time contextual question-answering.
- Deployed the system on AWS infrastructure and Programmed modular **Python** scripts for embedding generation, vector store population, and API interaction, ensuring scalability and low latency.
- Achieved a **60%** reduction in manual document lookup time and boosted customer support efficiency by leveraging OpenAI embeddings with **FAISS**-based vector similarity search. Integrated the solution using LangChain to enable **context-aware**, real-time retrieval of accurate answers from large-scale unstructured document corpora.

Summarization of text | *NLP, Python, React.js, Flask, Machine Learning*

- Leveraged **BERT**, **Word2Vec**, and **TF-IDF** to implement an NLP-driven summarization system, increasing text generation speed by 30%.
- Applied both the abstractive and extractive summarization techniques and created a hybrid model.
- Constructed an interactive Flask-based dashboard, allowing non-technical users to generate AI summaries effortlessly.

Certifications

- Microsoft Certified: Azure AI Fundamentals
- Machine Learning – Stanford University (Coursera)
- Software Engineer - HackerRank
- Neural Networks and Deep Learning – DeepLearning.AI (Coursera)

Organization

- Math Club(Vice-President)
- Global Student Ambassador at PSU