Daniel Ravi

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Summary

Computer Science graduate student at Penn State University, aspiring to be a **Software Developer / Software Engineer**, with hands-on experience in **Machine Learning (ML/AI)**, **LLMs**, **NLP**, and **full-stack development** using Spring Boot, FastAPI, ReactJS, and PostgreSQL.

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: 3.33/4.0 — *Sept 2019 – Apr 2023*

Skills Summary

Programming Languages: Python, C++, C, Java, JavaScript, Shell, SQL.
Frameworks: Spring Boot, Django, FastAPI, ReactJS, React Native
Tools: AWS, Docker, GraphQL, Git, JIRA, Github Actions(CI/CD)
Platforms & Databases: PostgreSQL, Redis, Elasticsearch, DynamoDB, MongoDB, Windows, Linux
Security: KMS, Spring Security, OAuth2, , JWT, Data encryption, Microservice architecture and session management.
Miscellaneous: Data Structures and Algorithms, Distributed Software Development, Object Oriented Programming, System Design, Design Patterns.

Professional Experience

Research Associate. — **PSU, PA**
Penn State University — *Aug 2023 - Ongoing*

- Enhanced the performance of the application by **80%** through the implementation of **Spring Boot's** asynchronous processing and **caching mechanisms**, optimizing data processing efficiency.
- Integrated **RESTful APIs** with **frontend modules**, enabling seamless data exchange and improving user experience.
- Optimized **SQL** queries and database schema with indexing and query tuning, improving data retrieval by **40%** and reducing API response time by **20%**.
- Implemented batch processing with **Spring Batch**, reducing processing time for 1,000 records, achieving a **72%** performance improvement.
- Managed version control with **GitLab** workflow, facilitated code reviews via pull requests, and streamlined task management through **Jira**

Software Engineer (AI/ML) Intern — **Hyderabad, India**
Quantela Inc. — *Jan 2023 - Jul 2023*

- Acquired hands-on experience with **Solana**-driven **data extraction** and diverse **NLP methodologies**, contributing to models with **97% accuracy.**
- Collaborated in cross-functional teams through daily meetings, integrating **NLP techniques** for text classification and sentiment analysis.
- Assisted in developing **machine learning models** for large-scale data analysis, with a focus on pre-processing and feature engineering.
- Prototyped and evaluated with multiple **feature extraction** and **model evaluation** techniques.
- Integrated and fine-tuned transformer models using **Hugging Face Transformers**, boosting NLP pipeline performance for classification and sentiment tasks.

Software Engineer 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.
- Enhanced professional competencies through real-time discussions in an **agile environment**, contributing to **2 sprint cycles** with **cross-functional teams**.
- Led backend **feature design** discussions, successfully implementing 3 **RESTful APIs** for internal tools.
- Coordinated end-to-end **development projects**, integrating introductory **machine learning** and **UI/UX design**, enhancing **product usability**.

Projects

LLM-Based Knowledge Graph Completion with Zero-Shot Learning | *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.
- Designed an API for real-time knowledge extraction, reducing manual processing efforts by **35%**.

Virtual Reality - Gauss's Law Visualization Laboratory Exercise | *C#, C++, Unity, OpenGL*

- Designed an immersive **3D virtual lab** to simulate Gauss's Law, enabling interaction with various charge distributions.
- Constructed tools to calculate **electric flux across Gaussian surfaces** in real-time within the simulation.
- Created intuitive graphical representations of charge distributions, improving conceptual understanding for students.

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

- Developed an **NLP-based summarization system** using **BERT, Word2Vec, TF-IDF**, improving text generation speed by **30%**.
- Applied both the abstractive and extractive summarization techniques and created a hybrid model.
- Built 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