Daniel Ravi

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Summary

M.S. in Computer Science graduate from Pennsylvania State University, with hands-on experience in **full-stack development**. Proficient in **Machine Learning, Artificial Intelligence**, **LLMs** and **NLP**, with strong backend and API integration skills.

Education

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

Professional Experience

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

- Developed a full-stack **Student Feedback System** leveraging **Spring Boot, ReactJS, and SQL**, applying OOP principles and modular design to deliver a scalable and maintainable platform.
- Enhanced system performance by introducing **lazy loading**, **API rate limiting**, backend caching mechanisms, and front-end pagination, improving data processing throughput by **80%** and accelerating feedback submission flow by **30%**.
- Refined **SQL queries** and restructured database schema with indexing and query optimization, improving data retrieval speed by **40%** and reducing API response latency by **20%**.

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

- Developed and deployed scalable backend APIs using **AWS Lambda, API Gateway, and DynamoDB**, improving **data retrieval latency by 30%** through optimized queries, caching mechanisms, and seamless integration with microservices-based backend systems.
- Built a full-stack internal tool using **React, TypeScript, and AWS services**, replacing a legacy interface and improving UI responsiveness with **40% faster load times**, resulting in streamlined workflows and improved developer productivity.
- Engineered secure **authentication modules** and microservice logic, reducing API response time by **25%** by implementing token-based validation, load balancing, and performance-tuned request routing for enterprise-scale applications.
- Automated **cloud infrastructure provisioning** with **AWS CloudFormation and Docker**, building CI/CD pipelines that increased deployment efficiency by **40%** and eliminated manual configuration errors.
- Created interactive dashboards with **Azure Synapse and PowerBI**, reducing reporting time by **50%** while enabling real-time data analytics.
- Collaborated with cross-functional teams to conduct code reviews, performance testing, and release audits, reducing post-release issues by **20%** and improving system maintainability.

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

- Created distributed **data pipelines** using **PrestoDB, Kafka, and Python**, reducing batch processing time by **40%** by optimizing query execution, implementing parallel ingestion, and ensuring fault tolerance for high-volume, mission-critical analytics workflows.
- Built a fault-tolerant **Scala-based replication service** to validate database upgrades with **production SQL queries**, ensuring **zero downtime** by automating rollback procedures, verifying schema changes, and improving data integrity across production environments.
- Automated anomaly detection and compliance auditing for **terabytes of data** using **Python**, increasing detection accuracy by **35%** by implementing rule-based filters, log aggregation techniques, and reducing manual inspection time by several hours weekly.
- Deployed real-time monitoring solutions with **Kubernetes and OpenSearch**, improving anomaly detection and debugging speed by enabling log centralization, performance metrics tracking, and visual dashboards for ML-driven financial models.
- Enhanced **ML model monitoring pipelines** with event-driven alerts and advanced performance metrics, reducing anomaly response time by **30%** while improving production reliability and predictive accuracy of live models.
- Integrated **data quality checks and ETL validation** across ML pipelines, improving feature reliability and increasing predictive performance by **15%** for downstream analytics.

Skills Summary

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

Web & Backend Technologies: React, Node.js, Express.js, Spring Boot, REST APIs, Microservices

Cloud Platforms: AWS (Lambda, EC2, API Gateway, DynamoDB, CloudFormation, S3), Microsoft Azure, Google Cloud Platform (GCP)

DevOps & Infrastructure: Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins), AWS CloudWatch, Infrastructure as Code (IaC)

Data Engineering & Analytics: PrestoDB, Kafka, ETL, Data Pipelines, Azure Synapse, PowerBI, OpenSearch, Datadog, Splunk

Machine Learning & AI: ML Model Monitoring, Event-driven Alerts, Anomaly Detection, Data Quality Validation

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%**.

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 produced 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