NIDHI SHARMA

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SUMMARY

Software and Data Engineer with experience building scalable data pipelines, cloud-native systems, and AI-driven applications. Proficient in Python, SQL, FastAPI, and distributed tools such as Apache Airflow and Kafka. Experienced in ML models, LLM-powered applications, and real-time analytics across research and industry.

EDUCATION

Virginia Polytechnic Institute and State University **Virginia, United States**

Master of Science, Computer Science | GPA: 3.9 / 4 *August 2024 – December 2025*

Relevant Coursework: Web Application Development, Machine Learning with Big Data, Social Media Analytics, AI Tools for Software Engineering, Blockchain Technologies, Fundamentals of Information Security, Integrated Project Design, Capstone Project

TECHNICAL SKILLS

Languages: Python, C++, Java, HTML, CSS, JavaScript, TypeScript, R
Libraries & Frameworks: NumPy, PySpark, Pandas, scikit-learn, TensorFlow, PyTorch, matplotlib, Angular, React, Node.js, Flask
ML Techniques: Regression, CatBoost, SVM, k-means, XGBoost, Random Forest, Naive Bayes, Decision Trees
Data Tools & Platforms: SQL, Apache Spark, Hadoop, DynamoDB, MongoDB, Tableau, AWS, Firebase, VMWare, Docker
Design & OS: Figma, Adobe, Canva, Filmora, Git | Windows, macOS, Ubuntu

WORK EXPERIENCE

A12XT Inc | *R&D Machine Learning Intern* *May 2025 - August 2025*

- **Integrated ML predictions** into FastAPI services, improving real-time optimization response by 19%
- Generated monitoring dashboards tracking latency, drift, and service health metrics
- Converted experimental ML code into reusable modules adopted by multiple estimation

Accenture Services | *Data Engineering Analyst* *July 2021 - July 2024*

- Built and maintained **Python-based data processing** workflows to support enterprise payroll and reporting systems, ensuring accuracy and reliability across recurring processing cycles
- Wrote and optimized **SQL queries** and data validation logic to handle large payroll datasets, improving data accuracy and reducing recurring errors by ~25%
- Participated in **Agile development,** contributing to **sprint planning**, issue triage, **debugging,** and documentation for production support and enhancements

PROJECTS

IDEATE: AI-Powered Courseware Generator | *React, Python, Flask/Cloud Functions, Firestore, Vertex AI, GCS, Cloud Run*

- Built an **AI-powered system** that converts raw instructional content into structured course outputs, blueprints, lessons, and quizzes used end-to-end by educators
- Developed a multi-step LLM workflow (blueprint - lesson - summary - quiz) with schema validation to ensure consistent, reliable outputs
- **Redesigned the user experience** with five dedicated UI panels and asynchronous backend job handling to support long-running AI generation tasks

Ducky: AI-Powered Coding Suite & Quack MCP Extensions | *Python, FastAPI, Streamlit, OpenAI, MCP, Pytest, Docker*

- **Created** an AI-driven developer productivity tool that supports code assistance, reviews, learning, and debugging within a single workflow
- **Added** automated testing capabilities by implementing a **pytest-based MCP extension**, enabling repeatable test execution with structured results
- Improved **developer debugging** efficiency by embedding AI support directly into the debug - test - iterate development loop

ByteCrew: AI-Powered Restaurant Management System | *React Native, Java, Spring Boot, Python, FastAPI, MySQL, MongoDB*

- Engineered a microservices-based restaurant management system separating **mobile client, backend services, and AI components** for scalable ordering and recommendations
- Implemented **voice-based ordering** by integrating an NLP transcription pipeline, enabling customers to place orders using natural speech

COSMIC Forecasting Agent Real-time 5G Forecasting Engine | *Python, AWS/GCP, Time-series ML*

- Built an **end-to-end machine learning pipeline** that generates data, preprocesses signals, and trains forecasting models to predict network traffic patterns
- Developed a forecasting engine modeling two **5G traffic domains** to predict daily and intra-day load spikes for capacity planning

LEADERSHIP AND INVOLVEMENT

- **Led** school-wide academic and community events, coordinating logistics and student participation
- **Mentored** students as a Teaching Assistant, providing targeted academic and technical support to improve course outcomes