

# Nidhi Sharma

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## Education

### Virginia Tech

Master in Computer Science

Aug 2024 - Dec 2025

Virginia, USA

### University of Mumbai

Bachelor of Engineering in Information Technology

Aug 2017 - May 2021

Mumbai, IN

## Technical Skills

**Languages:** Python, R, Java, JavaScript, C, HTML5, Shell

**Databases:** SQL, NoSQL, PostgreSQL, MySQL, MongoDB, Big, Multi-tenant Databases

**Cloud:** Amazon Web Services (AWS – EC2, S3, cost optimization, cloud simulations), Google Cloud Platform (GCP)

**Data Engineering & Big Data:** Apache Kafka, Apache Airflow, ETL Pipelines, Data Visualization Dashboards

**Machine Learning & AI:** NLP, Sentiment Analysis, AI-driven Chatbots, ML Model Deployment

**Frameworks & Tools:** FastAPI, TOSCA, Git, Docker, Kubernetes

## Experience

### Virginia Tech

Graduate Teaching Assistant – Data Engineering

Aug 2025 – Present

Virginia, USA

- Assist in teaching and mentoring graduate students in **Data Engineering**.
- Guide students through hands-on assignments and labs involving **AWS cloud infrastructure**, **Kafka streaming**, **Airflow DAGs**, and scalable data pipelines.
- Support coursework design, grading, and technical troubleshooting to help students build practical skills in distributed systems and cloud-native workflows.

### Virginia Tech

Research And Development Engineer

Nov 2024 – Present

Virginia, USA

- Conduct in-depth research on 5G technologies, exploring innovative applications and advancements.
- Collaborate with mentors and colleagues to design experiments and develop frameworks for testing emerging 5G solutions.

### A12XT Inc

Research And Development Machine Learning Intern

May 2025 – Aug 2025

Virginia, USA

- Worked on building AI-driven tools for real-time system optimization and cloud-based workflows.
- Implemented and integrated backend APIs with frontend dashboards for monitoring and visualization.
- Collaborated with cross-functional teams to test and deploy scalable solutions in cloud-native environments.

### Accenture Services India

Data Engineering, Management & Governance Analyst

Jul 2021 – Jul 2024

Mumbai, IN

- Engineered and deployed an efficient ETL workflow, optimizing payroll processes and reducing processing time by 30%.
- Engineered advanced Python algorithms for sentiment analysis and AI-driven chatbot functionality, increasing user engagement while reducing manual intervention.
- Refined SQL queries for payroll data management, minimizing errors by 25% and improving data accuracy.
- Performed automation testing using TOSCA, enhancing software performance and reliability by 20%.
- Facilitated collaboration between backend and frontend teams to ensure seamless data pipeline integration.

## Projects

### Ducky: AI-Powered Coding Suite & Quack MCP Server Extensions

Python, FastAPI, Streamlit, OpenAI, Autogen, MCP, Pytest

- Developed **Ducky**, an AI-driven productivity suite integrating OpenAI's LLM with FastAPI and Streamlit, featuring Quick Chat, LLM-based Code Review, Learning Assistant, Image Generation, and Voice Chat.
- Extended the **Quack MCP Server** by implementing a **pytest-based testing tool**, enabling automated test execution, structured results, and containerized deployment with Docker for reproducibility.
- Worked with **MCP (Model Context Protocol)** to integrate AI services into development workflows, enhancing debugging, testing, and interactive coding support.

### ByteCrew: AI-Powered Restaurant Management System

React Native, Java, Spring Boot, Python, FastAPI, MySQL, MongoDB, NLP

- Designed an AI-powered restaurant management system integrating self-service kiosks and a mobile app, leveraging microservices for seamless voice-based ordering and personalized recommendations.
- Incorporated NLP tools, including Whisper by OpenAI, to enable real-time voice-to-text transcription and dynamic menu suggestions, enhancing user experience.
- Developed a multi-tenant database (MySQL, MongoDB) supporting multiple franchises with secure Google authentication and QR-based logins.

## Professional Certifications

**Google Cloud Certified:** Cloud Digital Leader, Professional Data Engineer, Associate Cloud Engineer

**Microsoft Certified:** Azure Fundamentals