

Raunak Shukla

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EDUCATION

New York University - Tandon School of Engineering

May 2025

Master of Science (MS) in Computer Science

GPA: 3.73/4.0

Relevant Coursework: Algorithms, Software Engineering, Machine Learning, Data Visualization, Big Data, Java, Network Security

Vellore Institute of Technology, Vellore

May 2023

Bachelors of Technology (B.Tech) - Computer Science and Engineering

GPA: 8.44/10

Relevant Coursework: Artificial Intelligence, Operating Systems, Database Systems, Cloud Microservices, Object Oriented Programming

WORK EXPERIENCE

Building Diagnostics Robotics - Software Engineer

June 2025 - Present

- Led a cross-platform **React Native** app (iOS & Android) on a serverless **AWS backend**: **AppSync** (**GraphQL** with **WebSockets** subscriptions) for real-time updates, and leveraged **Lambda**, **DynamoDB**, **S3**, **Cognito** & **API Gateway** for service orchestration, scaling to 1,000+ users with owner and role-based access controls.
- Shipped BDR's React Native mobile app (iOS & Android), and **built an AWS-based CI/CD pipeline** (CodePipeline, CodeBuild + Amplify) that automated builds, cutting release time **~15%** and improving rollout reliability.
- Developed an ML pipeline for automated curve fitting and model evaluation across CSV datasets using Chebyshev, spline, ridge, and piecewise **regression**; implemented train/test RMSE analysis to optimize generalization and visualize performance, achieving an average **R2 score of 0.98**.

Building Diagnostics Robotics - Software Engineer Intern

March 2025 - June 2025

- Built [BDR's website](#) from scratch using **React.js**, **Next.js**, **Tailwind CSS**, and **Redux**, developing **modular components**, dynamic routing, and custom hooks; implemented mobile-first design, MDX-based static content, SEO optimization, and Google Analytics, improving UX, performance, and content engagement.

Radical AI - Software Engineer Intern

June 2024 - Aug 2024

- Created a real-time chat interface for the company's website with **OpenAI API** and scalable backend solutions using **Node.js** and **Firestore**, including features like session management and chat history and optimized user experience with quick action buttons and default prompts

Feyn Labs - Machine Learning Intern

Oct 2022 - Dec 2022

- Modeled and **fine-tuned** machine learning models for market segmentation, achieving **92.2%** accuracy by applying **K-means clustering** and hierarchical clustering on large-scale datasets
- Applied statistical modeling, exploratory data analysis and visualizations on **Tableau** to support sales analytics and recommendations, enabling a startup to identify target customer segments and optimize marketing strategies

PROJECTS

TaskPilot: Agentic Workflow Engine for Autonomous LLM-Orchestrated Tasks

- Architected a multi-agent system where autonomous AI agents plan, execute and validate tasks using tool integrations
- Developed a framework supporting streaming outputs & error recovery, simulating end-to-end **DevOps** workflows through **AI agents** and built a **Redis-backed** task queues with **FastAPI** and a real-time memory store, enabling scalable automation with persistent context.

AI Resume Builder

- Collaborated in a team of four during a hackathon to build a web app that parses PDF resumes and uses the **OpenAI API** to generate/rewrite bullet points based on user-provided prompts utilising **Next.js** and **Supabase** for authentication and data storage and **Vercel's v0** for rapid UI prototyping and seamless deployment.

Safeguarding NYC: Analyzing Crime Patterns using Big Data

- Engineered an **ELT pipeline** using **Spark** to transform and preprocess **218k+ NYC crime data**, leveraging **GCP** & **Airbyte** for data ingestion, integrating **Medallion Architecture**, and visualizing insights on **Snowflake**.

TECHNICAL SKILLS

Programming Languages: Python, Javascript, TypeScript, C++, Java, C, SQL, MySQL, PySpark, Bash, HTML/CSS

Frontend: React.js, Next.js, React Native, Angular.js | **Software Dev:** DevOps, Agile, Scrum, Software Testing, Linux

Backend: Node.js, FastAPI, Django, REST APIs, GraphQL, Redis, Supabase, Spark, Express, Flask, API Gateway

Cloud: AWS, GCP, Azure, Docker, Kubernetes, CI/CD, Jenkins | **Databases:** PostgreSQL, MongoDB, DynamoDB, Pinecone

ML: TensorFlow, PyTorch, Model Context Protocol, Recommender Systems, Scikit-Learn, Neural Networks, Data Analytics

GenAI & LLMs: LangChain, LangGraph, Multi-Agent Systems, Prompt Engineering, RAGs, LLM Fine Tuning (SFT, PEFT)

Tools: VS Code, Cursor, Codex, Anthropic Claude, Android Studio, XCode, Github, Snowflake, Tableau, Terraform, MLFlow