

# Nikhil Mukherjee

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## EDUCATION

**B.S. in Computer Science, Minor in Mathematics** | University of Massachusetts Amherst | (GPA: 3.64) 05/2025

- Relevant Coursework: Machine Learning, Artificial Intelligence, Software Engineering I-II, Data Science, Data Structures, Data Management, Algorithms, Software Entrepreneurship, Econometrics, Statistics, Linear Algebra I-II, Calc I-III, Linguistics.

## WORK EXPERIENCE

**AI Development Intern** | CustomAI | Remote, USA 12/2024 - 01/2025

*Startup developing customizable AI tools that enhance work quality.*

- Fine-tuning image embedding models by creating synthetic datasets with LangChain for PDF processing, preparing for automating deployment to Google Cloud.

**Data Engineer Intern** | Santander Bank | Boston, MA 06/2024 - 08/2024

- Spearheaded automation of ETL processes using SQL, SAS, and Python, improving operational efficiency by up to 400% and enhancing data validation controls. New running controls used by over 45 team members.
- Facilitated collaboration between ETL and Oracle teams by translating business requirements into technical specifications.
- Proactively engaged stakeholders to refine data quality assurance processes, strengthening cross-functional team communication, while supporting regulatory reporting for critical frameworks (e.g., CCAR, CECL).

**Software Engineer Intern** | GoApptiv | Remote, India 06/2023 - 08/2023

*Startup that is offering end-to-end B2B services for healthcare companies.*

- Enhanced the platform's data visualization capabilities using dynamic pivot tables, reducing HTTP requests and improving web application load speed by 30%.
- Collaborated with cross-functional teams to implement RESTful APIs, ensuring seamless data flow and integration across frontend and backend systems.
- Provided clear documentation and conducted sessions to empower clients with self-service analytics capabilities.

**University Research Volunteer** | University of Massachusetts Amherst | Amherst, MA 04/2023 - 06/2023

- Collaborated with a PhD mentor and a team of peers to develop quantum walk algorithms using Qiskit, transforming complex datasets and executing data transformations.
- Created engaging infographics from complex datasets, while democratizing quantum computing insights, and presented findings at the UMass FirstFridayFair - [ibb.co/Kh4ZrmT](https://ibb.co/Kh4ZrmT).

**Data Analyst Intern** | Spocto | Mumbai, India 06/2021 - 08/2021

- Led the development of predictive loan eligibility models using TensorFlow and PyTorch, boosting decision-making accuracy for credit assessments. Engaged with business users to interpret data visualization insights.

## PROJECTS

**Real-time Streaming Data Pipeline** | Docker, Airflow, Kafka, Spark, Cassandra

- Engineered a Streaming Data Pipeline to fetch and process data from the Random Name API, orchestrate workflows, and store the processed data in Cassandra.
- Built and Deployed Dockerized Services, and monitored Kafka topics via Kafka-UI to track incoming data in real-time.

**Recipe Generator Full Stack Web Application** | React, PostgreSQL, Next.js, Prisma, Flask, Vercel

- Led the development of a full-stack web application for dynamic recipe generation based on user-provided ingredients.
- Applied startup development principles, including customer and market analysis, to design a minimum viable product (MVP), leveraging Scrum cycles and Agile methodologies for iterative feature delivery - [cs-320-group-7-rose.vercel.app/](https://cs-320-group-7-rose.vercel.app/).

## SKILLS

**Programming Languages:** Python, TypeScript, JavaScript, C++, C#, SQL, R, Java, Golang, SAS.

**Tools:** AWS, Azure, Google Cloud, Shadow, Spark, MySQL, Kafka, Airflow, Snowflake, Pandas, NumPy, LangChain, Kubernetes, Tableau, PowerBI, Excel, GraphDB, JUnit, Git.

**Extracurriculars:** Product Management Club, Teaching Assistant, Club Soccer, Semester Abroad (Amsterdam).

**Spoken Languages:** English(Native), Hindi(Native), Bengali(Native), Spanish(Advanced).