

Karan Mudaliar

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Available: Jan 2024 - Dec 2024

EDUCATION

Northeastern University, Khoury College of Computer Sciences, Boston MA Expected December 2024

Master of Science in Data Science GPA: 4.0/4.0

Related Courses: **Supervised Machine Learning, Algorithms**, Data Processing & Management, **Deep Learning** (PhD course)

Vellore Institute of Technology, Vellore, India May 2021

Bachelor of Technology in Computer Science and Engineering, GPA: 8.51/10.0

Related Courses: Database Design and Management, **Data Visualization**, Java, Statistics, Linear Algebra, **Data Structures**

TECHNICAL SKILLS

Programming & ML : R, **Python**, **SQL**, Pandas, TensorFlow, **Spark**, **PyTorch**, NumPy

Tools & Technologies : Git, MySQL, Databricks, Airflow, Astronomer, Postgres, Tableau, AWS, JIRA, **ETL**, CI/CD

Models & Frameworks : Transformers, CNNs, RNNs, GCNs, Llama

PROFESSIONAL EXPERIENCE

Conde Nast, Chennai, Tamil Nadu

February 2021 - July 2022

Associate Data Engineer, Data Science & Engineering

- **ETL** : Customized and revamped legacy ETL pipelines to align with evolving business requirements, resulting in greater data processing efficiency, processing up to **0.3 million records in 10 mins**
- **ETL** : Designed, implemented, and optimized new data pipelines for enterprise data vendors such as Google Analytics and Spotify using S3, SQL, Python, Pyspark
- **Data Analysis** : Conducted in-depth **analysis** of raw data to discover and rectify inconsistencies, resulting in a **10% reduction in data errors** and improving data reliability
- **Leadership in development** : Spearheaded collaboration between Data Engineering, Platform, DevOps, and QA teams, to develop, deploy, and test production-ready data validation tools, **reducing data validation time by 80%**
- **Slowly Changing Dimensions** : Adapted to evolving requirements from upstream ML/BI teams by adding parameters and executing backfills for terabytes of data involving millions of records over 3 years, ensuring seamless analytics and model training

Capgemini, Bangalore, Karnataka

April 2019 - July 2019

Data Analyst Intern

- **Data Analysis** : Produced comprehensive **performance reports** of manager portfolios and **identified 3** key underperforming accounts, providing actionable insights to optimize portfolio performance using data driven decisions
- **Data Dashboard** : Utilized Tableau to craft **3 dynamic dashboards**, analyzing over 24 months of data from 8 portfolios and pinpointing 3 underperforming accounts, explaining causes for a performance reduction of up to 35%

Northeastern University, Boston, Massachusetts

Graduate Research Assistant, Data-Driven Renewables Research

October 2023 - Present

- **Deep Learning Research** : Applying Deep Learning models such as Graph Convolutional Neural Networks to predict surface properties of materials.

Graduate Teaching Assistant, Foundations of Data Science

September 2023 - Present

- Teaching students foundational data science concepts, ensuring proficiency in data manipulation, visualization, and statistical analysis techniques

ACADEMIC PROJECTS

Analysis of the failure of Silicon Valley bank, Northeastern University DS 5110

March 2023 - April 2023

- Leveraged EDA and advanced visualization techniques to **identify** and use **8 different predictor** variables, to unveil SVB's risky growth and deposit trends, revealing poor decision making and risk management strategies
- Devised a predictive regression model using R and used it to **anticipate First Republic Bank's** crash 8 days in advance

Boston Housing Tracker, Northeastern University CS5800

July 2023 - August 2023

- Designed and built a comprehensive solution to monitor Boston housing trends, integrating Databricks Delta, spark, Azure, and Apache Airflow, **monitoring 5000 listings** and trends **in real time**
- Integrated machine learning for real-time **price forecasting**, adding predictive capabilities for 4 localities within Boston

CERTIFICATIONS

Astronomer Certification for Apache Airflow, Astronomer

January 2022

Deep Learning Specialization, Coursera

September 2022

Google Data Analytics, Coursera

November 2021