

# RAJ MEHTA

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## EDUCATION

<b>Master of Science in Information Systems</b> - Northeastern University	Sep 2022 - May 2024
Coursework: Big Data Intelligence, Advanced Data Science, Fintech, AI-ML, Neural Networks, Data Structures, Application Development	
<b>Bachelor of Science in Information Technology</b> - St. Xavier's College	Jun 2018 - Mar 2022
<b>Computer Science</b> - University of Notre Dame (Dual Degree)	Feb 2021 - Dec 2021

## PROFESSIONAL EXPERIENCE

<b>Data and Python Engineer</b> - <a href="#">Eventide Communications</a> , Little Ferry, NJ	Aug 2023 - Dec 2023
<ul style="list-style-type: none"><li>Engineered configurable modules using <b>NexlogDX</b> and <b>Python</b>, enhancing operational insights by tracking over 24 KPIs for PSAPs.</li><li>Created 16 report templates and dashboards using <b>Python</b> and <b>JavaScript(AMCharts5)</b>, streamlining 911 call data analysis.</li><li>Applied <b>Python</b> for ETL processes EDA on 911 call data, addressing missing information and extracting insights.</li><li>Utilized <b>SQL</b> queries to transform data and analyze patterns, providing staffing recommendations and key business insights.</li><li>Developed <b>Bash</b> scripts for secure <b>PostgreSQL</b> data handling, managing 10 million entries and enhancing data integrity and efficiency.</li></ul>	
<b>Quality Assurance and Automation Engineer</b> - <a href="#">DE Shaw &amp; Co</a> , Hyderabad, India	Jan 2022 - Sep 2022
<ul style="list-style-type: none"><li>Translated website and <b>API</b> updates into <b>Cypress.io</b> test scenarios, to boost system readiness by 6% and enhance deployment efficiency.</li><li>Implemented automated bug-monitoring with <b>Selenium WebDriver</b>, improving issue detection and reducing post-QA issues by 27%.</li><li>Orchestrated defect logging with <b>Python</b> and developed <b>Cypress</b> scripts, enhancing defect pinpointing efficiency by average of 2 days.</li><li>Developed <b>Bash</b> scripts for database and data-table creation, restoration, and migration, streamlining database management processes.</li></ul>	
<b>AI/ML Engineer</b> - <a href="#">Dronology</a> , South Bend, IN	May 2021 - Dec 2021
<ul style="list-style-type: none"><li>Enhanced drone communication reliability by implementing <b>MQTT</b> architecture, reducing response times from 10ms to 2ms.</li><li>Utilized UAV footage for human detection using Machine Learning model - <b>CNN</b>, implemented with the <b>Keras</b> Python library.</li><li>Conducted safety <b>mutation testing</b> on UAV flight plans in <b>Java</b>, achieving 3000 test case checks and ensuring robust UAV operations.</li><li>Contributed to <b>UAV safety algorithm research</b> by publishing <a href="#">papers</a> in the International Journal on Software Engineering (JSS, October 2022) and the International Conference on Communications (ICCPs, December 2021).</li></ul>	

## PROJECTS

<b>CloudStock Whisperer</b> - <a href="#">View Project</a>	Jan 2024 - Apr 2024
<ul style="list-style-type: none"><li>Implemented <b>AWS S3</b> bucket storage to efficiently manage and scale extensive financial stock datasets sourced from the <b>yfinance API</b>.</li><li>Created <b>AWS Glue</b> jobs using <b>PySpark</b> for robust data preprocessing and feature engineering essential for trading algorithms.</li><li>Applied the <b>Kalman Filter</b> machine learning model to time-series stock data using <b>pykalman</b> and <b>sklearn</b> Python libraries.</li><li>Utilized <b>AWS SageMaker</b> for efficient training and deployment of the Kalman Filter model to generate real-time trading signals.</li></ul>	
<b>Veritas Shield</b> - <a href="#">View Project</a>	Jan 2024 - Mar 2024
<ul style="list-style-type: none"><li>Provisioned <b>AWS Kinesis</b> Datastreams for realtime streaming and processing of financial data, providing rapid detection of fraud.</li><li>Crafted <b>AWS Lambda</b> functions for data processing, flag transactions, and integration with <b>AWS S3</b> for optimized data management.</li><li>Configured <b>AWS Glue</b> for automated data cataloging using crawlers enhancing data readiness for flagged transaction.</li><li>Employed <b>Amazon Redshift</b> to perform data analysis using SQL queries, identifying data patterns to prevent fraudulent activities.</li><li>Leveraged <b>Amazon EMR</b> for scalable processing and feature engineering, crucial for effective anomaly detection in trading algorithms.</li></ul>	
<b>Forum Fusion</b> - <a href="#">View Project</a>	Jan 2024 - Mar 2024
<ul style="list-style-type: none"><li>Deployed <b>Confluent Kafka</b> Server to facilitate real-time data streaming and messaging, enabling live chat and comment functionalities.</li><li>Engineered the backend in <b>Python</b>, using Kafka's streaming features to efficiently handle live user interactions and data processing.</li><li>Built the frontend with the <b>Streamlit</b> Python library, creating an interactive and responsive user interface for community engagement.</li><li>Utilized <b>Docker</b> to containerize the application, ensuring consistent operation across development and production environments.</li><li>Leveraged <b>Google Kubernetes Engine</b> in <b>Google Cloud Platform</b>, to deploy containerized app, boosting scalability and manageability.</li></ul>	

## TECHNICAL SKILLS

<b>Programming</b>	Java, Python, SQL, Bash, R, Dart, JavaScript, HTML, CSS
<b>Frameworks</b>	FastAPI, Streamlit, Numpy, Pandas, Scikit-Learn, Scipy, Spark, Jupyter Notebook, Apache Kafka, Hadoop
<b>Cloud and DevOps</b>	AWS (S3, EC2, Glue, Sagemaker, Lamda), Apache Airflow, Git CI/CD, Docker, Azure, GCP, Databricks
<b>Database</b>	SQL Server, PostgreSQL, Oracle, MySQL, MongoDB, Snowflake
<b>Competencies</b>	AI, ML, Computer Vision, Deep Learning, Software development, Cloud Programming