

NIVETHA BALASUBRAMANIAN

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SUMMARY OF SKILLS

- Driven Data Engineer with 5 years of work experience in Fintech industry, proficient in designing, implementing, and maintaining scalable data pipelines using **Python, R, Java**.
 - Experience with various data storage solutions such as relational databases (**SQL**), NoSQL databases (**MongoDB**), and cloud-based storage (**AWS S3, Google Cloud Storage**).
 - Skilled in designing and optimizing data warehouse architectures(**Snowflake**) for efficient querying and analysis. Familiarity with ETL (Extract, Transform, Load) processes and tools (e.g., **Apache Airflow, Talend**).
 - Strong teamwork and communication skills, ability to collaborate effectively with cross-functional teams, document technical processes and communicate complex ideas to non-technical stakeholders.
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EDUCATION

- **University of Waterloo - Masters in Management Sciences** **Sep 2022 - Apr 2024**
Principles of Operations Research, Organizational Behavior, Quantitative Data Analysis for Management Sciences, Applied Economics for Management, Statistical methods for Data Analytics, Operations Analytics, Foundations of Senior Management, International Project Management
 - **Indian Institute of Technology Madras - Diploma in Data Science** **Jan 2021 - Apr 2022**
Mathematics for Data Science I&II, Computational Thinking, Statistics for Data Science I&II, Programming in Python, Business Data Management, Programming Data Structures and Algorithms using Python, Machine Learning Foundations, Business Analytics, Machine Learning Techniques, Tools in Data Science, Machine Learning Practice
 - **Anna University - Bachelors in Information Technology** **Jul 2014 - May 2018**
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SKILL SET

Languages: Python, Java, R, JavaScript, HTML, CSS, Shell Scripting, Bash commands

Tools: Jenkins, Docker, Terraform, SQL, PySpark, Kafka, Jira, Git, Excel, Tableau, Google Cloud Platform, AWS, Snowflake

Soft Skills: Critical Thinking, Problem-Solving, Verbal & Written Communication, Collaborative, Team Player

WORK EXPERIENCE

- **Student Intern (Data Engineering) - Market Platforms** **May 2023 - April 2024**
Nasdaq, Toronto, ON, Canada
 - Designed and developed an ETL Pipeline using **Python, Swagger API endpoints, and SQLAlchemy** to pull the data from Nasdaq's Risk Platform, to run it over a fine-tuned, quantised **LLM Model** like Number Station's NSQL model and Llama2 model using **FastAPI** to build a chatbot, facilitating customer support in real-time, 42% reduction in man-hours to resolve data related queries.
 - Built a reconciliation system using **Python and Swagger API endpoints**, to compare traded prices between the Risk Platform and data loaded on the **Amazon S3 Buckets** using **Boto3** packages to handle the data discrepancy and improve process efficiency by 27%.
 - Performed time series analysis like moving averages, exponential smoothing and **ARIMA models** using **Python** and **SQLAlchemy** to observe the trends and forecast the risk exposure value to 72% confidence interval based on historical data.
 - Collaborated with diverse stakeholders like Risk platform clients, developers and product team, to discuss on product enhancement requests and delegate resources.

- **Analyst - Data Engineering - FICC - Post Trade**
Goldman Sachs, Hyderabad, Telangana, India

Aug 2021 - Jul 2022

- Designed ETL pipeline to facilitate the movement of structured data by integrating 100 million raw records from 20+ data sources using **Python and Java** from legacy systems to **Snowflake** and testing the data quality in batches.
- Led the database migration from **IQ to Snowflake on AWS**, resulting in an annual cost savings of \$723,000 and improved performance by 18% by utilizing **Agile methodology, JIRA and SCRUM framework**.
- Worked on supporting the consumers of financial data, such as analysts, data scientists, statisticians and executives to reliably, quickly and securely inspect all of the data available from various sources via ETL pipelines. Also involved in **Data Analysis using Python**, to inspect the quality of data and retrieve meaningful insights.

- **Senior Software Engineer - GLCM - Payments**
HSBC Technology India, Pune, Maharashtra, India

Jul 2018 - Aug 2021

- Leveraged services like **Google Kubernetes Engine, Google Cloud Storage, Data Flow and AI Platform on Google Cloud Platform** to deploy Machine Learning models like Client Clustering, Product Recommendation systems to improve customer engagements by 57%.
- Designed APIs for cross-border payments for Payment Initiation, Membership validation and Payment cancellation use cases and tracked them by integrating **Swift GPI System using Java and Springboot**.
- Automated the production support issues by designing an alert system on **Google Data Studio** that improved resiliency by 73%.
- Developed the infrastructure and pipeline needed to run the Machine Learning Models on **Google Cloud Platform**, employing Ansible and Jenkins through **Terraform** scripts.

PROJECTS

- **Optimised Feature Selection for Early Cancer Detection**

[Paper Link](#)

Devised an optimised feature selection technique with higher accuracy by selecting the most relevant 7 features out of 10 with an accuracy of 95.7%. Using Convolution Neural Network, the accuracy improved to 98.3% with optimal hyperparameter tuning.

- **JobHere, SheHacks, Queens University**

[Github Link](#)

Develop a recommendation engine to compare resumes with job descriptions and derive accuracy of skill matching. Used the Cohere API, Python, Figma, Google Colab, and Anvil API to build the prototype

- **Recommendation Engine for Diversifying Trade**

[Github Link](#)

Develop a recommendation engine for firms across the world that helps them diversify their imports and exports. Run tSNE to identify clusters within the data in high dimensional space Run clustering algorithm (DBSCAN) to identify clusters.

ACHIEVEMENTS

- Participated in NasdHack, hackathon at Nasdaq to present the chatbot project, which received appreciation at Global Leaders and was selected among the Top 5 Global Finalists under the “Best use of LLM” category.
- Acclaimed with “Pat on the Back” during Q1-2021 and Q3 -2019 and “Most Consistent Performer” at HSBC Technology India, Pune.
- Secured 1st position among 100+ teams in Facebook-sponsored HerTech Hackathon, Pune in 2019 for delivering a Recommendation engine to diversify trade.
- Achieved 29th University Rank out of 4049 candidates in bachelor's degree.