Annapragada Vamsy Vrishank

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EDUCATION

Stevens Institute of Technology   **Hoboken, New Jersey**
Masters of Science in Financial Engineering (STEM)   **Jan 2025 – Dec 2026**
Relevant Coursework: Stochastic Calculus , Risk Management , Pricing and Hedging , Design Patterns and Derivative Pricing.
National Institute of Technology, Tiruchirappalli   **Trichy, India**
Bachelor of Technology in Metallurgical and Materials Engineering , Economics (Minor)   **Aug 2017 – May 2021**
Relevant Coursework: Applied Game theory , Forecasting in Macroeconomics and Finance , Numerical
Techniques, Transforms and Partial Differential Equations, Econometrics, Cloud Computing

SKILLS

- **Tools:** C++,Python, Spark, Kafka ,ETL, SQL, Airflow, AWS, GCP, NumPy, StatsModels, TensorFlow ,Quantlib, XGboost,
- **Core Competencies:** Data & Software Engineering, Machine Learning, Mathematical Modelling, Quantitative Analysis

WORK EXPERIENCE

PayPal   **Bangalore, India**
Software Engineer 2 (Data)   **Sept 2021 - Dec 2024**
- Implemented **Near-Real-Time** pipelines on Pub-Sub , **delivering reporting ~80%** faster than traditional batch jobs.
- Worked on **Unification of customer data** from **Braintree, Venmo, and Hyperwallet** by developing batch applications in Spring Boot for **ETL** processes, utilizing **Reltio MDM** to establish a single source of truth for data.
- Migrated data workflows from **on-premises Hadoop clusters** to GCP managed clusters **Dataproc**, reducing infrastructure costs and saving the organization **~$4 million** annually.
- Led **Braintree's petabyte-scale** data migration at **PayPal** from **Redshift** to **Google BigQuery ,** enabling unified data access across teams and saving the organization ~ $48K
- Developed and optimized ETL data pipelines for **Enterprise Data Lake** , **improving data accessibility and processing speed by ~30%** for downstream analytics and machine learning teams.

Indian Institute of Technology (IIT-BHU)   **Bangalore, India**
Research Intern   **May 2019 - July 2019**
- Pre-processed over **150 hours of EEG signal data (~10 GB)** using Python, including **manual annotation**, **labelling**, and **artefact removal** via **Independent Component Analysis (ICA)** and **band-pass filtering (1–40 Hz)**.
- Engineered EEG feature pipelines by applying **wavelet transforms** and **wavelet packet decomposition**, improving frequency-time resolution and enabling **extraction of features** for downstream classification.
- Designed and trained **10+ custom CNN architectures** using **TensorFlow** experimenting with various **depths , kernel sizes** and **pooling strategies**, achieving **15–20% performance gain** in early experiments on multi-class EEG classification

MothersonSumi Infotech   **Noida, India**
Quantitative Analyst Intern   **Dec 2018 - Feb 2019**
- Worked on Churn Rate prediction model using **logistic regression and random forest** , improving model accuracy of **identifying venerable customers by 20%** compared to previous model.
- Researched **on regression analysis** on material properties and thread dimensions and materials used in. manufacturing nuts and bolts, leading to **10% increase in detection of manufacturing defects**.

ACADEMIC PROJECTS

Optimal Architectures for Capturing Surface Defects in Metals
Collaborated with a team of three , aimed at designing architectures to caption surface defects on metals**. Researched on Seq2Seq NLP architectures** , encoder framework used CNN for high dimensional feature extraction, decoder used RNN responsible for caption generation. A novel framework was developed for future research in automated quality control.

LEADERSHIP AND EXTRA-CURRICULARS

- Co-organized Impact Day on making a difference, serving meals to children in collaboration with NGO (Akshaya Patra)'23.
- Organized workshops on Market Analysis,Trading Strategies, Data in Finance as a Manager of ProfNITT(Finance) club.

AWARDS AND ACHIEVEMENTS

- Authored a research paper on *'Design and Implementation of connection pooling in API's in distributed environment'* **published internally at PayPal**, Jun'22
- Received **SPOT Award** in the **Data Lake team** for driving inclusion and innovation in **distributed data systems.**