Vineeth Ajith John

Portfolio: Vineeth Portfolio
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EDUCATION

- **Rutgers University** — **Expected 2025**
  Master of Science - Data Science; GPA: 3.70/4.00 — *New Brunswick, NJ*

- **College of Engineering Guindy, Anna University** — **August 2018 - June 2022**
  Bachelor of Engineering - Electronics and Communication; GPA: 7.80/10.00 — *Chennai, India*

SKILLS SUMMARY

- **Languages**: Python, R, C++, SQL, MATLAB, Bash
- **Frameworks**: Scikit, Pandas, Matplotlib, PyTorch, TensorFlow, Keras, Tidyverse, Ngrok
- **Tools**: Tableau, Docker, GIT, PostgreSQL, MySQL
- **Platforms**: Linux, Windows, iOS, Raspberry
- **Coursework**: Statistical Modelling, Data mining & Machine learning, Time Series Modelling, Probability & Statistical Inference

EXPERIENCE

- **REgeneration Energy Company** — **May 2024 - July 2024**
  Software Development Intern — *Austin, TX*
  - **Help desk system setup**: Installed and configured an open-source Request Tracker (RT) instance on Ubuntu, integrated PostgreSQL as the DBMS, and automated workflows within RT using Perl scripts for operational efficiency.
  - **Testing API connectivity**: Executed comprehensive testing of 10+ API endpoints using Postman, identifying critical integration issues with external systems and enhancing system reliability
  - **Integration with chatbot**: Spearheaded the incorporation of an AI chatbot using API's, into the customer support framework, allowing for 24/7 ticket generation capabilities and reducing response time by 50%

- **REgeneration Energy Company** — **July 2024 - Present**
  Data Science Intern — *Austin, TX*
  - **Data Collection and analysis**: Scraped 10,000+ web data using BeautifulSoup and performed data cleaning, EDA and transformation to analyze hydrogen production costs for various methods.
  - **Data visualisation and forecasting**: Visualized production cost data on a US map using Matplotlib, Plotly, and Folium, and forecasted future hydrogen demand with time series analysis, ARIMA, and machine learning.
  - **Business insights development**: Conducted comprehensive supply and demand analysis of the hydrogen industry using regression and trend analysis, resulting in actionable insights that optimized business strategies, enhancing forecasting accuracy by 25% over previous models.
  - **Data Integration and Visualization**: Established a connection between Supabase and NodeJS for real-time, dynamic data visualization.

PROJECTS

- **War-Related Fires Prediction and Resource Optimization (OLS, Ridge and Lasso Regression, PCA, Hypothesis Testing)**: Developed advanced models to predict incidents of war-related fires within Ukrainian-controlled areas, enhancing decision-making in conflict zone management. Optimized resource allocation by reducing coordinates from 169,107 to 6,488 hotspots and identified that 26% of the estimated 17 million affected individuals were concentrated in these pinpointed hotspots. Tech: Python, Scikit-Learn, NumPy, Pandas, Matplotlib

- **IoT-Based Liver Disease Detection (Convolutional Neural Network, Deep Learning, Image Segmentation, IoT)**: Engineered an innovative liver disease detection system using Convolutional Neural Networks (CNNs) for precise segmentation and abnormality identification in abdominal CT images, achieving an accuracy of 92%. Engineered an IoT solution with ESP8266 and GSM modules to autonomously update patient health status to a central server and trigger alerts to emergency contacts upon detection. Tech: Python, TensorFlow, Keras, ESP8266, GSM module, MATLAB

- **Facial Recognition Applications (CNN, Haar Cascade Classifier, Viola-Jones Algorithm)**: Designed a 4-layered Convolutional Neural Network using Keras and TensorFlow to enhance image recognition and classification capabilities. Implemented a Haar Cascade Classifier with the Viola-Jones algorithm for critical facial feature extraction and achieved real-time facial expression recognition with an accuracy rate of 85% using OpenCV. Tech: Pandas, Keras, TensorFlow, Numpy, Jupyter

- **TSLA Stock Price Prediction (LSTM, Time Series Forecasting, Recurrent Neural Networks)**: Utilized Long Short-Term Memory (LSTM) networks to forecast Tesla's stock price by analyzing historical stock prices using Yahoo Finance API. LSTM networks, adept at processing time series data, were employed to provide accurate predictions, aiding investors and analysts in navigating market uncertainties. Tech: Python, TensorFlow, Keras, Pandas, NumPy, Google Collab

PUBLICATIONS

- **Unhealthy liver detection using Convolutional Neural Network with IoT**: S. E. P. Pushpa, T. Jayasree, V. A. John, A. Subramanian, V. Chandrashekhar and S. Sankareswaran, "Unhealthy Liver Detection using CNN with IoT," 2023 International Conference on Sustainable Computing and Smart Systems (ICSCSS), Coimbatore, India, 2023, pp. 1079-1083, doi: 10.1109/ICSCSS57650.2023.10169799.