Vineeth NC

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Education

University of Maryland, Baltimore County — Baltimore, MD
Master of Science in Computer Science | GPA: 3.86/4.00 — *Aug. 2021 – Present*

Birla Institute of Technology and Science — Hyderabad, India
Diploma in Artificial Intelligence and Machine Learning | GPA: 3.73/4.00 — *Apr. 2019 – Apr 2020*

Jawaharlal Nehru Technological University - Hyderabad — Hyderabad, India
Bachelor of Technology in Computer Science | GPA: 3.44/4.00 — *Jun. 2014 – Jun 2018*

Experience

Lab Research Assistant — Oct. 2022 – Present
University of Maryland, Baltimore County — *Baltimore, MD*

- Working for UMBC's Pi-Squared Lab in the capacity of a researcher for different projects.
- Contributing to work pertaining to scientific visualizations in VR/MR.
- Currently studying rasterization optimization for point cloud rendering in real time.
- Diagnosed the Pi-Squared Lab's CAVE2 wall in order to identify areas that needed repair and restore.

Research Associate — Oct. 2018 – Mar. 2020
IT Wizlab — *Hyderabad, India*

- Authored beginner and specialized courses for Python and Machine Learning.
- Worked on the company's Learning Management System and wrote 1000+ Python and Machine Learning codes.
- Wrote beginner courses for: Regression, Feature Engineering, Supervised Learning and Classification.
- Handled sysadmin work for a network of about 50 systems.

Data Engineer – Intern — Jun. 2017 – Jun. 2018
Amazon Development Centre — *Hyderabad, India*

- Scripted ETL code to perform optimal database migration of tables totalling over 100 million rows of data.
- Studied existing relational databases on Oracle to design counterpart for Amazon Redshift.
- Built 30+ reports and analyses on Amazon Quicksight based on Redshift databases.
- Authored about 10 whitepapers about the limitations of the then-AWS technology in the context of the project.

Projects

Training Vision-Language Models | *Natural Language Processing, Neural Networks* — Nov. 2022 – Dec. 2022

- Project to train a multimodal classification model that uses text and image data.
- Built a BERT+LSTM model for text based classification, an image classification, and a stacking fusion model.
- Tested against various datasets to analyze and write about the current state of multimodal classification tasks.
- Emphasized the need of large open-sourced multimodal datasets.

Data Augmentation Comparison Study | *Python, Neural Networks, Databases* — Apr. 2022 – May. 2022

- Project to generate new augmented training dataset using GANs to train classification model.
- Constructed a multiple-discriminator GAN to generate images and corresponding labels.
- Trained about 30 models by varying input dataset sizes and performing hyperparameter tuning.
- Contrast image classification model performance by varying the training datasets.

Baltimore City Crime Data Dashboard | *Data Visualization, Data Analysis* — Sep. 2021 – Dec. 2021

- Built a data dashboard to track and visualize Baltimore city crime statistics.
- Analyzed over 400k rows of data to build over 15 graphs and charts to provide insights into crime trends.
- Performed data cleaning, feature engineering, data analysis, and built data statistics.
- Wrote code to build Python visualizations using Pandas, Numpy, Matplotlib, and Seaborn.

Mediclaim Processing | *Machine Learning, Classification, Neural Networks* — Mar. 2020 – May. 2020

- Project aimed at predicting whether a given medical insurance claim will be accepted or not.
- Performed data cleaning and feature engineering on a dataset of 150000 rows.
- Built 15 classification and neural network models and compared their performance.

Technical Skills

Languages: Python, C, Go, SQL (MySQL, Oracle, Redshift), HTML/CSS
Fields: Machine Learning, Data Visualization, Data Science, Natural Language Processing
Tools: Git, Amazon Redshift, Amazon Quicksight, VS Code, Visual Studio, Jupyter, MySQL Workbench
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, Keras, Tensorflow, Seaborn