Vamshi Krishna Edamadaka

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Work Experience

Arch Mortgage Insurance | Software/ML Intern Greensboro, NC | June 2022 - Aug 2022

- Employed Amazon Comprehend and LSTM to analyze loan decision-making sentiment.
- Enhanced image classification algorithm by **15%** via Convolutional Neural Networks and Transfer Learning, and utilized GPU parallelization for faster training.
- Conducted Multi-class Classification of preprocessed image data using Random Forest and Neural Networks.
- Engineered Deep Learning-based Text Recognition (OCR) using Tesseract and OpenCV, and analyzed patterns with clustering algorithms, including DBSCAN.

University of North Carolina at Greensboro | Graduate Assistant Greensboro, NC | February 2022 - present

- Built a recommendation system with collaborative filtering and deep learning models, sending personalized alerts to users with healthy food options on any grocery website.
- Designed a mobile version of the same system for iOS and Android, using Estimote proximity sensors for distance based push notifications.
- Conducted a survey on **3000 people**, with **80%** strongly agreeing that receiving notifications motivated them to shop for healthy options.

Optum Global Solutions | Software Development Engineer Hyderabad, India | October 2020 - July 2021

- Designed and implemented a strategy to efficiently merge tables containing over **2 million** medical claims, reducing claim verification time by **20%**.
- Worked extensively with big data technologies like Hadoop and Spark to process and analyze large volumes of healthcare data.
- Developed an Angular application to visualize Medicare and Medicaid claims statistics.
- Led daily stand-ups and project updates on JIRA, participating in all phases of Agile SDLC.

Sterling Information Resources | Software Engineer Intern Thane, India | June 2019 - September 2019

- Built a JavaScript Dashboard application to visualize background verification results.
- Automated the process of extracting the traffic and criminal records from background verification databases using C#, increasing data extraction speed by **15%**.
- Aided in migrating local databases to AWS, working with Amazon EC2 and Amazon S3.

Relevant Project work

Using Hypergraph Neural Networks with improvised Laplacian formula for detecting human brain state

- Optimized the **HCAE** method for classifying the state of a human brain by more than **10%**, replacing its Laplacian with the latest Laplacian used in HyperGCN.
- Trained the model on the **ADNI GO** dataset to perform binary classification of whether a person has Alzheimer's disease or a Mild Cognitive Impairment.
- Developed an Encoder with 2 Hypergraph convolution layers, a ReLU activation function, a Decoder with Dense layers, and a discriminator that acts as a regularizer.

Skimlit - Tensorflow Developer Certificate NLP Milestone Project

- Modeled a multi-modal NLP model to understand the efficacy of **prednisolone** for osteoarthritis and achieved an accuracy of **86%** and f1 score of **84%**.
- Created the model using **Naive-Bayes with TD-IDF encoder** as the Baseline. Later trained it with Pre-trained token embeddings, character embeddings, and positional embeddings. Used Bi-directional LSTM with a combination of Dense and Dropout layers with token inputs and character inputs as input layers.
- Achieved remarkable results, tested on multiple blogs and research papers.

Handwriting recognition and sentiment analysis using CNN

- Achieved **95%** accuracy in identifying handwritten text with sentiment analysis.
- Developed a GUI using Tkinter where users could manually write text.
- Utilized 5 Conv layers, 3 FC layers, and 3 max pool layers with LRN layer and ReLU similar to AlexNet.

Skills

Programming Languages: Java, Python, C++, C#, Swift, Kotlin, JavaScript, R
Libraries/Frameworks: Pandas, NumPy, Keras, Sklearn, OpenCV, Cuda toolkit, TensorFlow, Pytorch

Certifications and Courses

- Microsoft Certified: Azure Data Scientist Associate
- Tensorflow Developer Certificate
- MIT 18.06 Linear Algebra
- MIT 18.065 Matrix Methods in Data Analysis, Signal Processing, and Machine Learning.

Education

University of North Carolina at Greensboro Greensboro, NC
Masters Computer Science Aug 11, 2021 - May 4, 2023
Course Work: Deep Learning, Big Data and ML, Artificial Intelligence, Algorithms Analysis / Design

CMR Technical Campus Hyderabad, India
Bachelors Computer Science July 2016 - September 2020
Course Work: Database Management Systems, Data Structures in C++, Java, Python