Laasyavani Gudisa

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Education

Master's in Computer Science specialization in Data Science **Aug. 2023 – Dec 2024**
University Of Texas at Dallas *Richardson, Texas*

Bachelor of Science in Computer Engineering **Aug. 2019 – May 2023**
University Of Texas at Dallas *Richardson, Texas*

Relevant Coursework

- Data Structures and Algorithms
- Software Engineering
- Algorithms Analysis
- Database Design
- Network Security
- Business Analytics in R
- Machine Learning
- Advanced Statistics for Data Science

Experience/Projects

Skin Cancer Prediction CNN | *NumPy, Pandas, Matplotlib, Scikit-learn* **Nov 2023 – Dec 2023**

- Implemented a Convolution Neural Network(CNN) in Python for image classification of skin lesion data.
- Collaborated on data preprocessing, image reshaping, and pickling to efficiently handle a large dataset (10GB).
- Developed a CNN class with an integrated Artificial Neural Network(ANN) from scratch with forward and backward passes, handling convolution, activation functions, and optimization.
- Implemented a cross validation function from scratch to assess the performance of the CNN model.
- Generated classification reports, Confusion matrix, and ROC curves for model evaluation. The model resulted in above 50% accuracy.

Tweet Clustering | *NumPy, Pandas, Matplotlib, Scikit-learn, GoogleColab, nltk* **Nov 2023**

- Cleaned and tokenized input data of over 1400 tweets, removing unwanted elements such as symbols, links, and stop words.
- Developed a K-means Clustering class using Jaccard Distance metric to cluster redundant/repeated tweets into the same cluster. Sum of Squared Errors(SSE) was used to evaluate the quality of clustering result and achieve convergence

Neural Network Model | *NumPy, Pandas, Matplotlib, Scikit-learn, GoogleColab* **Sept 2023 – Oct 2023**

- Performed rigorous data pre-processing, including data cleaning, duplicate removal, and label encoding.
- Developed a custom neural network classifier from scratch in Python that supports activation functions such as Sigmoid, Tanh, and ReLU. This design provides flexibility to adapt to different datasets and problem complexities.
- The model resulted in above 70% accuracy when applied to the task of breast cancer classification.

Privacy Preserving E-Commerce System | *Python, Cryptography library, Hashlib, Sockets* **Oct 2023 – Dec 2023**

- Designed E-Commerce system where multiple customers can buy from a designated Merchant through a Broker.
- Used RSA Public-Private key pairs authentication between merchant and broker and of broker done by the customer.
- Implemented Diffie-Hellman key generation to maintain confidentiality of session between merchant and customer.
- Used Diffie-Hellman key + 1 to strengthen integrity as well as Mixing-in-plain-text concept with sha256 for encryptions.

Technical Skills

Languages: Python, Java, HTML/CSS, R Language, SQL
Certifications: Google Data Analytics
Libraries/Tools: Numpy, Pandas, Scikit-Learn, Matplotlib, nltk, Cryptography Library, Hashlib
Technologies/Frameworks: Linux, GitHub, Jupyter Notebook, JUnit

Leadership / Extracurricular

WEHack Coordinator **May 2022 – Present**
Dev Coordinator *University Of Texas at Dallas*

- Organized a woman and underrepresented gender focused 24-hour hackathon that hosted over 250 hackers and 6 sponsors.
- Developed a responsive user interface(UI) using HTML/CSS, JavaScript, and React.js to provide information and real time updates regarding hackathon to the participants.
- Led the Front-End Developments team by integrating real-time updates, a live chat feature and navigator enhancing user engagement and event experience.