

Vishwas Singh

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Education

Indian Institute of Information Technology, Guwahati

August 2023 —

Bachelor of Technology in Computer Science

- **CGPA** : 7.98
- **Coursework:** Data Structures & Algorithms, Operating Systems, Database Management Systems, Artificial Intelligence, Numerical Optimization , Probability, Statistics

Projects

Next Word Prediction using LSTM

- Built a text generation model using stacked LSTM layers to predict the next word in Shakespeare's Hamlet text
- Processed and tokenized 4,818 unique words creating n-gram sequences with maximum length of 14 tokens
- Implemented a deep neural network with 100-dimensional embeddings, dual LSTM layers (150 and 100 units), and dropout regularization
- Applied early stopping mechanism with validation monitoring to prevent overfitting and achieve optimal model performance
- Utilized sequence padding and categorical encoding for efficient training on 25,732 input sequences
- Technologies Used: Python, TensorFlow, Keras, NLTK, NumPy, Pickle, Jupyter Notebook

IMDB Movie Sentiment Analysis using RNN

- Developed a deep learning model using Simple RNN to classify IMDB movie reviews as positive or negative sentiment
- Implemented word embedding layer with 128 dimensions and processed sequences of 500 tokens for efficient text representation
- Applied sequence padding and preprocessing techniques to handle variable-length text inputs from 25,000 training samples
- Achieved model convergence using Adam optimizer with binary cross-entropy loss and early stopping callbacks
- Technologies Used: Python, TensorFlow, Keras, NumPy, Jupyter Notebook

Diabetes Prediction using Machine Learning

- Built a classification model using Decision Tree algorithm for early diabetes detection
- Performed data preprocessing, feature scaling, and hyperparameter tuning with GridSearchCV
- Tuned hyperparameters to achieve efficient convergence and optimal prediction performance
- Technologies Used: Python, Scikit-learn, Pandas, NumPy, Matplotlib, Jupyter Notebook

Technologies

Languages: C, C++, Java, Python, HTML, CSS, JavaScript, Prolog

Library/Frameworks: Flask, Streamlit, Scikit-learn, TensorFlow, Keras

Tools: NumPy, Pandas, Matplotlib, Seaborn

Technologies: MySQL, MongoDB, Docker

Development Tools: Visual Studio Code, IntelliJ IDEA, Postman, Jupyter Notebook

Version Control: Git, GitHub

Achievements

- Solved 200+ questions on LeetCode Max Rating: 1414+