K Krishna Kireeti

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Education

Technology Institute India

Bachelor of Technology in Computer Science and Engineering *Expected Graduation- May 2026*

Coursework

- Data Structures and Algorithms
- Design and analysis of Algorithms
- Database Management System
- Object Oriented Programming
- Probability
- Statistics and stochastic processes

Projects

PINN for Harmonic Oscillator | *Python, Tensorflow, Numpy, MatPlotLib* December 2023

- Developed a Neural network for predicting the position of a Harmonic Oscillator.
- Integrated the concept of 'Physics Loss' to train the model on fitting to the data and physical constraints to get better results when predicted on unseen data.
- Used Tensorflow's inbuilt Gradient Tape mechanism to write custom loss and train step.
- The trained model outperforms the generic neural network model trained on the same problem on unseen data.

Image Colorization using Pix2Pix GAN | *Python, Tensorflow, Numpy, OpenCV* October 2023

- Implemented Pix2Pix GAN architecture, involving a UNet-based generator and PatchGAN discriminator, to perform image colorization from grayscale inputs.
- Modified and preprocessed a diverse dataset for training, ensuring better learning and realistic colorization of grayscale images.
- Used the tensorflow checkpoints to log training steps and generate images periodically to better monitor the model's performance through the training.

Text Classification for Disaster Tweet Analysis | *Python, Tensorflow, Numpy, NLP* August 2023

- Implemented various state-of-the-art models (LSTM, BiLSTM, BERT, etc.) for text classification on Kaggle's disaster tweet dataset.
- Conducted thorough data preprocessing, tokenization, and feature engineering to extract meaningful insights from text sequences.
- Evaluated and compared model performances, emphasising BERT's superior performance in capturing contextual information for disaster tweet classification.

A* Pathfinding algorithm visualizer: | *Python, Pygame* December 2022

- Created a Python-based A* algorithm visualisation tool using Pygame.
- Developed the backend algorithm structure to simulate pathfinding in a grid-based environment.
- Planned future implementation for wider accessibility and interface enhancements.

Technical Skills

Languages: Python(Advanced), Java(Proficient), C(Basic), SQL (MySQL)
Frameworks and Libraries: TensorFlow, PyTorch, HuggingFace, SciKit Learn, OpenCV, Numpy, Matplotlib
Technologies: DeepLearning, Computer Vision, Neural Networks,VS Code, Git
Languages: English, Telugu, Hindi