Ajeya Krishna

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Education

Indian Institute of Technology (BHU), Varanasi *Varanasi, India.*

IDD in Engineering Physics. Current C.G.P.A **8.55/10.**

Andhra Pradesh Board of Education *Tirupati, India.*

BIEAP (Class 12): **972/1000.** BSEAP (Class 10): **9.8/10.**

Skills

Programming Languages C++, Python HTML5, CSS, SQL

Work Experience

Datalogy *WFH*

INTERN *Aug - Oct 2020.*

- Worked with real-world data from the company to predict the performances of various courses offered by company.
- To gain insights, I used a variety of data exploration techniques using scipy,pandas,numpy,seaborn,matplotlib libraries in python.
- Different classification and regression machine learning techniques were implemented with optimization using sklearn library .
- Extracted useful insights from raw data and assisted the company with their client targeting and products .

Projects

Unpaired Image to Image Translation with Pix2Pix Generative Adversarial Networks - Git *January 2021, IIT BHU.*

- The Pix2PixGAN was used to convert satellite images to Google Maps type images.
- The generator is based on a U-Net architecture with decoder and encoder, and the discriminator is based on a 30*30 Patch GAN architecture. In the generator, there were skip connections between encoder and decoder.Batch normalisation was used in this study.
- The model is optimized using Mean Squared Error, Sigmoid Cross Entropy loss functions. The model has been trained for 200 epochs, and the results are very satisfactory.

Review Classification of Amazon Fine Food using Decision Tree and Random Forest - Git *February 2021, IIT BHU.*

- The Amazon Fine Food dataset having a total of 10 feature attributes consisting of food reviews was used.
- The text review was pre-processed by removing stop words, punctuation marks and transforming all the words into a uniform representation.
- Decision Tree Classifier, Random Forest Classifier from the sklearn library was used to learn a decision tree and a random forest using both instance bagging and feature bagging. The least error model was chosen by testing the model with varying hyperparameters like maximum leaf nodes, depth of the tree, splitting criteria and the number of instances, features and trees in the random forest.

Image captioning with Visual Attention - Git *March 2021, IIT BHU.*

- MS-COCO dataset was used, and the captions were preprocessed using tokeinzation. The photos were classified using InceptionV3 model.
- Implemented a CNN encoder- RNN decoder seq2seq model with attention for captioning of Images.
- Bahdanau's attention mechanism and Gated Recurrent units(GRU) are used. Teacher forcing algorithm is employed for efficient training.
- The model is trained for 50 epochs and is able to correctly caption the images .

Generative Chat Bot -Git *December 2020, IIT BHU.*

- Text has been processed beforehand by deleting the stop words, tokenization, lemmatization, and regex for eliminating useless parts.
- The LSTM encoder-LSTM decoder sequence network is used to predict the text. For effective training, the teacher forcing algorithm is used.
- The tkinter library was used to build a graphical user interface for interaction, and the bot predicting replies were satisfactory.

Other Projects *February-March 2020, IIT BHU.*

- Art generation using Neural Style Transfer. The pretrained VGG19 model has used. The NST algorithm is used to transform content pictures into well-known art images.
- Built a deep convolution neural network from scratch to classifiy the MNIST handwritten digits dataset.
- Implemented a deep neural network for traffic board sign classification with an accuracy of 95 percent.

Relevant Courses

Computer Science Machine Learning, Deep Learning Specialization, Data Structures and algorithms, Python Programming

Mathematics Optimization Techniques, Linear Algebra, Statistics and Probability, Differential Equations, Calculus.

Position of Responsibility

Technex Workshop Head *2018-2021*

- Highest Footcount achieved in workshops (Highest across all IIT's) through collective efforts.
- Conducted 11+ workshops and managed around 2000+ students.
- Negotiated with Companies; Achieved Positive Feedback from Students.

Badminton Club member *2017-2018*

Member in the club of Badminton of IIT BHU.

Miscellaneous

JEE Rank Secured a rank of **2304** in the Joint Entrance Exam 2017(Advanced)

Fest management I organised a fest for 500+ people at IIT BHU.