Ritika Agarwal

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EDUCATION

ABV INDIAN INSTITUTE OF INFORMATION TECHNOLOGY AND MANAGEMENT

INTEGRATED B.TECH + M.TECH IN INFORMATION TECHNOLOGY
Jun 2016 - May 2021 | Gwalior, India
CGPA: 7.54/10 (Upto 8th Semester)

SKILLS

PROGRAMMING

•Python • C++ • Data Structures
• Design and Analysis of Algorithms

MACHINE LEARNING

• Convolutional Neural Network
• Text Summarization
• Sequence Labelling
•Text Classification
• Image Recognition
• Computer Vision
• Natural Language Processing

PYTHON PACKAGES

•Tensorflow• NumPy •Pandas •NLTK
•Scikit-Learn • Keras •SpaCy
• OpenCV

COURSEWORK

UNDERGRADUATE

•Artificial Intelligence
•Object Oriented Programming
•Data Structures
•Design and Analysis of Algorithms
•Database Management Systems
•Operating System

MOOCS

•Neural Networks and Deep Learning
•Structuring Machine Learning Projects
•Improving Deep Neural Networks:Hyperparameter tuning, Regularization and Optimization

EXPERIENCE

SUMMER ANALYST | Morgan Stanley

May 2020 – July 2020

- Developed a NLP based model to extract key value pairs from user query signifying important information present in the sentence.
- Integrated the model with a Tableau Dashboard through Tableau Extensions API, to provide search google like search utility for the underlying worksheet.

RESEARCH INTERN | NSUT,New Delhi

July 2019 – September 2019

- Developed an algorithm for adaptation of ANNs in the presence of disturbance and noise.
- The algorithm uses disturbance observer and EKF.

MACHINE LEARNING INTERN |BlueSense Technologies

June 2019 – July 2019

- Worked as a machine learning intern and developed AI models for computer vision use cases.

PROJECTS

LRNEUNET May 2019 – August 2019 | B.Tech Thesis Project

Devised an attention based deep architecture for lipreading from multitudinous sized videos.The model uses spatio temporal CNN ,Bi-GRU and an attention layer along with CTC loss to predict the spoken sentences by mapping the silent lip movements. The proposed architecture achieved a word error rate and character error rate of 2.7% and 1.2% respectively on the overlapped speakers scenario on the GRID corpus.

LANDMARK IDENTIFICATION June 2019

Devised a model which can predict landmark labels,for example it can distinguish between a common waterfall and the Niagra waterfalls,and identify it as such, directly from image pixels.The model uses ResNet50 along with Global maxpooling , with pretrained weights on ImageNet and Adam optimizer.

CREDIT CARD FRAUD DETECTION July 2019

Devised a model to predict credit card fraud by applying data analysis techniques on an unbalanced dataset.Implemented the SMOTE technique and applied GridSearch CV ,before feeding the data into a neural network, in order to fine tune the model.The model achieved an accuracy of 99.2%.

TOXIC COMMENT CLASSIFICATION Jan 2019

Devised a model for categorizing comments within various classes of toxicity ,using a Bi-Directional GRU, and a Bi-Directional LSTM along with a 1D convolutional layers for the Toxic Comment Classification Challenge on Kaggle.
The model achieved an ROC-AUC score of .984.

PUBLICATIONS

Agarwal R.,Gupta V.,Rastogi A.,Dhar J.,Bhattacharya M.(in press)LRNeuNet-An attention based deep architecture for lipreading from multitudinous sized videos. GUCON 2019 IEEE International Conference on Computing,Power and Communication Technologies.