Tejul Pandit

tejulp.github.io | tejulpandit2021@u.northwestern.edu | tejulpandit

Education

Northwestern University — Evanston, USA
Master of Science in Artificial Intelligence — *September 2021 - December 2022 (Expected)*
Coursework: Introduction to Artificial Intelligence, Machine Learning, Data Science Seminar, Frameworks for Artificial Intelligence

K. J. Somaiya College of Engineering, Autonomous College Affiliated to Mumbai University — Mumbai, India
Bachelor of Technology in Electronics & Telecommunication; ***CGPA: 8.65/10.00*** — *August 2014 - May 2018*
Relevant Coursework: Data Structures and Algorithms, Object Oriented Programming, Data Analysis and Interpretation, Data Modelling and Visualization, Operation Research, Neural Networks and Fuzzy Logic, Big Data Analytics, Cloud Computing

Professional Experience

CRISIL Limited, An S&P Global Company — Mumbai, India
Software Engineer - Data Science — *March 2021 - June 2021*
Senior Associate - Data Science — *October 2019 - March 2021*
Associate - Data Science — *June 2018 - October 2019*

Key Qualifications & Responsibilities:

- Identified trends by segmenting salaried and non-salaried customers of a large Middle Eastern Bank using K-means clustering.
- Created Bank Statement Analyzer using Flask-API to classify transactions, analyse the data, and detect fraudulent transactions for one of the largest Indian Bank for **1000+ users**
- Developed a product to eliminate similar news articles from different sources, classification into macro-level sectors using BERT-base, uncased architecture as encoder, and implementing LSTM based sequence-to-sequence (seq2seq) model with attention mechanism to generate an abstractive summary increasing efficiency across all verticals of CRISIL, saving **150 man-hours daily**.
- Implemented Random Forest classifier to extract specific information from documents to achieve an **accuracy of 83%** in collaboration with the technical team of S&P Global.
- Accomplished extracting key highlights from rating reports by applying K-means clustering algorithm on Skip-Thoughts generated sentence embeddings.
- Built the first company-wide AI project using a CNN model to classify **200-500** news articles daily into respective sectors and corresponding sub-sectors with **87% accuracy**.

Key Achievement:

- Conferred with a quarterly award, **Bright Spark Award**, for hard-work and consistent performance in the field of AI during the *Q2'19*
- Received **CRISILite Award for Performance (CLAP)** for the month of *August 2018* for delivering successful results in projects involving NLP and deep learning technologies at CRISIL.

Academic Projects

Gait Analysis using Sensors and Artificial Intelligence [Code Link] | *Python, Arduino* — May 2017 - May 2018

- Developed a low-cost prototype that analyzes humans' walking style to diagnose neurological disorder.
- Synchronized data obtained from 4 sensor modules fastened to the subject's legs and converted them to JPEG images to collect a total of **4500 sample images**.
- Trained the last 2 layers of pre-trained deep CNN model, inception V3 to classify images obtained into set of walking styles and achieved run-time **accuracy of 78%** on test subjects.

Modeling of Microstrip Antenna [Code Link] | *R, Excel* — March 2018 - March 2018

- Simulated a microstrip antenna in HFSS software to obtain transmitting/receiving power of the antenna (gain) by varying the various design parameters to generate **2,194** combinations of unique antenna designs for frequencies ranging from 1GHz to 12GHz.
- HFSS software took approximately 72 hours for computation on 3.2GHz clock speed.
- Implemented KNN Regression to optimize the time taken to calculate gain of test samples with **95% accuracy**.

Peer-Reviewed Conference Papers

T. Pandit et al., "**Abnormal Gait Detection by Classifying Inertial Sensor Data using Transfer Learning**", 2019 18th IEEE International Conference On Machine Learning And Applications (ICMLA), 2019, pp. 1444-1447, doi: 10.1109/ICMLA.2019.00236. [Paper Link]

Skills

- **Languages**: Python, R, SQL, Java, C++, MATLAB, LaTeX
- **ML/Deep Learning Frameworks**: Scikit-Learn, Tensorflow, Keras
- **Tools**: AWS (EC2, S3), GCP, Git, Google Colab

Additional Experience & Achievements

- Mentor at **The Lighthouse Project**, a not-for-profit organization, for an underprivileged student as part of their one-on-one mentoring program from *September 2019* to *July 2021*.
- Won first prize at **Prakalpa'17**, State level Competition (out of approximately 500 students) in the category Neural Networks for the project 'Gait Analysis using Sensors and Artificial Intelligence'.