SAHIL WADHWA

(+1)2172086838 ◇ sahilw2@illinois.edu ◇ github.com/wadhwasahil ◇ linkedin.com/in/wadhwasahil/

EDUCATION

University of Illinois, Urbana-Champaign *Dec '20*
MS in Statistics Current GPA: 4.0/4.0

Jamia Millia Islamia, New Delhi *May '16*
Bachelor of Technology, Computer Science Overall GPA: 9.6/10

WORK EXPERIENCE

Inference Analytics Aug '19 - Present
NLP Research Intern

- Aspect Based Sentiment Analysis: Created an end to end model to perform aspect-based sentiment analysis using pre-trained encoders and topic modeling techniques **(LDA, Rake)**
- Summarization of very long radiology reports using **BERT** to reduce reading time for doctors/radiologists. Model was able to generate nearly human-level summaries

Seagate Technologies May '20 - Present
HAMR Write Design Team, Machine Learning Engineer Intern

- Create interactive dashboards for data visualization using **plotly** and **voila**
- Identify anomalies in wafer images by trying out various methods such as image segmentation using **CNN** and **YOLO** in pytorch
- Develop ML models to identify important and relevant metrics in data storage devices using regression analysis such as **Linear Regression**, **Gradient Boosting Methods** etc

School of Information Sciences UIUC Jan '20 - Present
Graduate Research and Teaching Assistant *Advisor Halil Kilicoglu*

- Implement multi-label classification models for biomedical journals on Randomised Controlled Trials (RCT) to ensure their integrity with CONSORT guidelines.
- Identifcation of cited text spans in scientific literature, using pre-trained encoders (**BERT**) in combination with different neural networks

Blackrock Feb '18 - Aug '19
Financial Modeling Group (FMG), Machine Learning Engineer

- Created a topic-model to extract sentiment information from news articles to predict asset returns. Calculated sentiment-charged words to predict sentiment of a document that ultimately affects returns of securities
- Trained a very large scale distributed word-embedding model similar to **word2vec** for large vocabularies. Used **Ignite** as **parameter server** for asynchronous updates to model parameters across multiple nodes to avoid memory overflow
- Developed a novel word-level **Entity Linking/Disambiguation** model by incorporating attention mechanisms using **BERT** and **bi-LSTMs**. Surpassed current state-of-the-art strong matching performance(**F1**) on **AIDA** test dataset by **2%**

Scry Analytics June '16 - Sept '17
Data Scientist

- **Named Entity Recognition**: Created an **LSTM** based model to extract information i.e entities from unstructured clinical data using **tensorflow**
- **Relation Extraction**: Developed a **Convolution Neural Network(CNN)** based deep learning model to identify relationships between entities in a text.
- Implemented Big Data pipelines in **Spark** for fast retrieval and processing of data residing in **HBase**. Reduced the pipeline execution time from **3 days** to **6 hours** by switching the entire pipeline from **Map-Reduce** to **Spark**

INDEPENDENT RESEARCH PROJECTS

1. **Shadow detection in images**: Implemented a U-Net based **Conditional Gated Adversarial Network** (GAN) to detect shadows in images by incorporating a sensitivity parameter to regulate the amount of shadow pixels in the predicted shadow map
2. **Event recognition in complex videos using multi-stream CNNs**: Explored fusion techniques for the spatial (static frames) and temporal (stacked optical flow) streams

RESEARCH PUBLICATIONS

1. YELM: End-to-End Contextualized Entity Linking. *link*
2. Evaluating the Readability of Force Directed Graph Layouts: A Deep Learning Approach. IEEE Computer Graphics and Applications, (CG&A). *link*

SKILLS

Languages - Python, C++, Java, R, Scala
Frameworks and Databases - Tensorflow, Spark, PyTorch, SQL, Hive, HBase