Prakamya Mishra

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Education

University of Massachusetts Amherst **Sep. 2021 – May 2023**
M.S in Computer Science; GPA: 3.8/4 MA, USA

Shiv Nadar University **Aug. 2016 – Jul. 2020**
B.Tech. in Computer Science & Engineering; GPA: 8.41/10 UP, India

Work Experience

IBM **Jan. 2020 – Jun. 2020**
GRM Research Intern, Bachelor Thesis [Link] Virtual

- Developed a novel Bi-directional Inter-Sentence Contextual Attention mechanism (Bi-ISCA) to capture inter-sentence dependencies for detecting sarcasm.
- Explained model behaviors and predictions by analyzing the attention maps and identifying words responsible for invoking sarcasm.
- Guide: Dr. Kuntal Dey & Dr. Saroj Kaushik.
- **First author long paper accepted at MRC-HCCS workshop of IJCAI 2021 [Oral]**

Reliance Jio Infocomm Ltd. **May 2018 – Jul. 2018**
Big Data Intern MH, India

- Integrated Apache Airflow for data workflow management and implemented the LSMR-PM data pipeline in the Jio big data ecosystem.
- Performed competitor analysis and tests based on security, performance, scalability, fault tolerance, and monitoring.
- **Tools used: Spark, Scala, Apache Airflow, Hive, Hadoop**

Research Experience

***Neural*NERE** | *Independent Research [Link]* **Dec. 2020 – Jun. 2021**

- Proposed an end-to-end Neural Named Entity Relationship Extraction model (called *Neural*NERE) for climate change knowledge graph construction, directly from the raw text of relevant news articles.
- Introduced *Sci*DCC dataset, a new climate change dataset containing over 11,000 climate change news article scraped from the Science Daily website.
- **Published at Tackling Climate Change using Machine Learning workshop of ICML 2021 [Spotlight Talk, Acceptance rate = 14.6% of the accepted papers].**

STEPs-RL | *Independent Research [Link]* **Jun. 2020 – Dec. 2020**

- Developed STEPs-RL, a novel spoken-word representation learning approach that uses speech and text entanglement for learning semantically, syntactically, and phonetically sound spoken-word representations by capturing acoustic & text-based contextual features.
- **Single author long paper published in PAKDD 2021 [Oral, Acceptance rate = 20%]**

Road Network Mapping from Aerial Images | *Undergraduate Research [Link]* **Aug. 2017 – Dec. 2018**

- Developed road network mapping framework using a random forest model for pixel-wise road segmentation.
- Implemented post processing steps including connected component analysis (CCA) and Hough Lines Method for improving the segmentation result and subsequently extracting the road network from high resolution aerial images.
- Guide: Mr. Aakash Sinha.
- **Published in proceedings of SPIE, Applications of Machine Learning 2019**

Projects

Spoken Word Representation Learning | *Academic Course Project [Link]* **Aug. 2019 – Dec. 2019**

- Developed a convolutional autoencoder based neural architecture to model syntactically and semantically adequate contextualized representations of varying length spoken words.

Music Recommendation System | *Academic Course Project [Link]* **Aug. 2017 – Dec. 2017**

- Collaborated in a team of five members to build a music recommendation system using JavaFX for front-end.
- Implemented logistic regression model in the back-end for recommending songs based on song characteristics such as key, mode, loudness, acousticness, danceability etc.

Technical Skills

Languages: Java, Python, C, HTML/CSS, JavaScript, SQL, Git, Shell, LATEX
Big Data: Spark, Scala, Apache Airflow, Hive, Hadoop
Machine Learning: TensorFlow, Pytorch, Keras, Numpy, Pandas, Sklearn, Matplotlib, Huggingface