Anik Saha

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Education

- **Rensselaer Polytechnic Institute** **Troy, NY**
  M.S. Electrical Engineering *Expected Graduation: Aug, 2023*
  - Working on domain adaptation, causal information extraction, multi-sense word embeddings
- **Bangladesh University of Engineering and Technology** **Dhaka, Bangladesh**
  B.Sc. Electrical and Electronic Engineering *May 2010 - Sep. 2015*

Publications

In Preparation
Domain adaptation for causal information extraction. Anik Saha, Alex Gittens, Oktie Hassanzadeh, Jian Ni and Bulent Yener.

Anik Saha, Jian Ni, Oktie Hassanzadeh, Alex Gittens, Kavitha Srinivas, and Bulent Yener. Spock at fincausal 2022: Causal information extraction using span-based and sequence tagging models. In *Proceedings of the 4th Financial Narrative Processing Workshop@ LREC2022*, pages 108–111, 2022a.

Anik Saha, Alex Gittens, Jian Ni, Oktie Hassanzadeh, Bulent Yener, and Kavitha Srinivas. Spock@ causal news corpus 2022: Cause-effect-signal span detection using span-based and sequence tagging models. In *Proceedings of the 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE)*, pages 133–137, 2022b.

Anik Saha, Catherine Finegan-Dollak, and Ashish Verma. Position masking for improved layout-aware document understanding. In *Document Intelligence Workshop at KDD*, 2021.

Internship Experience

- **IBM Research** **Yorktown Heights, NY**
  Summer Research Extern *May 2022 - Aug 2022*
  - Worked on domain adaptation of span-based and sequence-tagging models for causal information extraction
  - Experimented with adversarial training and pre-training approaches to domain adaptation from single or multiple source to unlabeled target domain
- **IBM Research** **Yorktown Heights, NY**
  Summer Research Extern *May 2021 - Aug 2021*
  - Externship on Causal Knowledge Extraction
  - Incorporated dependency and constituency parse information to the transformer network for better performance in causal relation extraction
- **IBM Research** **Yorktown Heights, NY**
  Summer Research Intern *Jun 2020 - Aug 2020*
  - Remote internship in the AI Platforms and Runtimes department
  - Worked on multimodal information extraction from business documents
  - Improved a pre-trained language model using a combination of textual and positional features in scanned document images

Research Experience

- **Rensselaer Polytechnic Institute** **Troy, NY**
  Research Assistant *Jan 2019 - Present*
  - Explored word sense induction with multi sense embeddings and knowledge distillation from pre-trained language models
  - Collaborated with IBM Research on the causal information extraction and domain adaptation
- **Semion Inc.** **Dhaka, Bangladesh**
  Machine Learning Researcher *Sep 2016 - Jul 2017*
  - Developed deep learning models for sentiment analysis of large documents
  - Utilized distributed computing techniques to speed up training

Teaching Experience

- **Rensselaer Polytechnic Institute** **Troy, NY**
  Teaching Assistant *Aug 2017 - Dec 2018*
  - Held Lab sessions, helped students in office hours and graded assignments and exams for the course Computer Components and Operations in Fall 2017 and Spring 2018
  - Held office hours, developed assignment solutions and graded assignments for the Introduction to Machine Learning course in Fall 2018
- **Daffodil International University** **Dhaka, Bangladesh**
  Lecturer, Department of Electrical and Electronic Engineering *May 2016 - Aug 2016*
  - Taught Introductory Computer Programming, Analog Electronics and Electric Machines

Class Project

- *Neural Abstractive Summarization with Attention Mechanism* Spring 2019
  - Evaluated the pointer-generator architecture on the WikiHow dataset. Modified the Tensorflow implementation of the pointer-generator architecture to add a decoder attention mechanism to prevent repetition in the generated summary.
- *Action recognition with deep learning* Spring 2018
  - Used sequence of frames from videos for recognizing human actions. Built an LSTM network on top of a convolutional feature extractor to predict an action from 11 predefined classes using Tensorflow.

Coursework

Graduate: Deep Learning, Computational Optimization, Machine Learning, Natural Language Processing, Time Series Analysis, Data Analytics, Machine Learning and Optimization

Undergraduate: Computer Programming, Digital Signal Processing, Introduction to Image Processing

Skills

Programming Languages: Python, MATLAB

Deep Learning Framework: Tensorflow, PyTorch

Version Control: Git

Office Tools: LaTeX, MS Word, PowerPoint, Excel

Operating Systems: Linux, Windows