Pratik Maitra

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Research Area and Interests

My current research is focused on the area of information extraction/retrieval using AI/NLP techniques and I am being supervised by Professor Qi Li. In particular, I am interested in the application of weak/distant supervision techniques for information retrieval.

Education

- **Iowa State University**
  Doctor of Philosophy, Computer Science 2023–present
- **University of Iowa**
  Master's in Computer Science (3.76 CGPA) 2021–2023
- **Jadavpur University**
  Bachelor's in Computer Science 2013–2017

Experience

- **Doctoral Researcher** (NLP), Iowa State University 23/8 - ongoing
- **Research Assistant** (NLP/Bioinformatics), University of Iowa 22/6–23/05
- **Teaching Assistant**, University of Iowa/Iowa State University 21/10 – ongoing

Publications

- CAD2GRAPH: Automated Extraction of Spatial Graphs from Architectural Drawings **(ECML PKDD 2023)** – Pratik Maitra et al.
- Leveraging Natural Language Processing for Symptom Identification in Acute Myeloid Leukemia using Clinical Notes from Electronic Health Record **(in submission)** - Pratik Maitra et al

Past Research Projects and Collaboration

- I had previously collaborated with Professors Wang Tong, Sena Chae, and Bijaya Adhikary at the University of Iowa on various ML/AI research projects.
- One of the research projects was related to the application of KNN-based algorithms to CAD graphs of medical buildings which resulted in a publication.
- Another research project was related to the task of developing a named entity recognition tool for detecting symptoms in clinical notes. The work is currently pending submission to the JCO CCI journal.
- I had previously worked with Professor Subhadip Basu of Jadavpur University on using Shapley values to enhance graph-based social networks as part of my undergraduate research work.

Relevant Skills

- Programming: C, C++, Python, HTML/CSS
- Databases: MySQL, MongoDB
- Front-end Frameworks: NodeJS, Express, React, MERN stack
- AI/ML: PyTorch, Spacy, NLTK, Transformers, BioBERT, Scikit-learn
- Big Data Cloud Computing: AWS EMR, YCSB, Hadoop, Spark
- Miscellaneous Tools: C-Profile, Async-Io, Multiprocessing, GitHub/GitLab, Custom Tkinter

Certifications and Scores

- TOEFL - 113
- GRE - 321

Course Work

- Advanced Artificial Intelligence
- Machine Learning
- DBMS
- Advanced Algorithms
- Cloud Computing
- Natural Language Processing
- High-Performance Computing