

KANAV MEHRA

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EDUCATION

University of Waterloo

Master of Mathematics, Computer Science (Thesis)

Advisor: Dr. Kate Larson | Cumulative GPA: 96.33%

Coursework: Reinforcement Learning, Affective Computing, Machine Learning

Waterloo, Canada

2021 - Present

Indian Institute of Engineering Science and Technology, Shibpur

Bachelor of Technology in Information Technology

Cumulative GPA: 8.9/10.0 (First Class Honours)

Relevant Coursework: Artificial Intelligence, Data Structures and Algorithms, DBMS, Modelling & Simulation

West Bengal, India

2015 - 2019

RESEARCH EXPERIENCE

Data Science for Social Good Foundation

Data Scientist, Volunteer

Jul 2020 - Nov 2020

- Developed two novel methodologies that leverage Twitter discourse to characterize narratives and identify unmet needs in response to natural disasters, in partnership with the International Water Management Institute (IWMI).
- Built integrated models based on the concepts of network analysis and a wide range of NLP methods such as sentiment analysis, POV extraction, text summarization, and zero-shot text classification.

Indian Institute of Technology, Kharagpur

Research Intern, Department of Computer Science

West Bengal, India

May 2017 - Jul 2017

- Worked on combining multiple algorithms to develop novel unsupervised and supervised ensemble summarization algorithms using graph processing and learning-to-rank methods.
- Evaluated and compared eight off-the-shelf extractive summarization algorithms using the ROUGE metric. Applied the algorithms on different text documents, including the DUC datasets and microblogs collected from Twitter.

PROFESSIONAL EXPERIENCE

PwC India

Technology Consultant

Kolkata, India

Jul 2019 - Sep 2021

- Implemented an infrastructure and service monitoring system with real-time anomaly detection, customized alerting profiles, and automated incident generation to track application performance.
- Created geospatial visualizations to highlight spam attack trends and classify threats based on the intensity of attacks. Implemented a spam prediction model using Splunk MLTK to forecast location specific spam attacks.

RESEARCH PROJECTS

Summarization of Microblogs for Disaster and Emergency Preparedness

Extracted information from social networking sites during disasters and used the same information to build a responsive system to provide useful information for rescue operations (using machine learning, specifically NLP and summarization techniques). **Advisor:** Dr. Saptarshi Ghosh, IIT Kharagpur, India

Autonomous Coaches for Managing Workplace Meetings

Designing a responsive humanoid chatbot for multi-party communication which simulates the behaviour of a human manager while taking autonomous control over a meeting. We also analyzed the change in behaviour of the participants in different scenarios. **Advisor:** Dr. Malay Bhattacharyya, ISI Kolkata

PUBLICATIONS

Crayton, A., Fonseca, J., **Mehra, K.**, Ng, M., Ross, J., Sandoval-Castañeda, M. & von Gnechten, R. (2020). *Narratives and Needs: Analyzing Experiences of Cyclone Amphan Using Twitter Discourse*. Tackling Climate Change with Machine Learning Workshop at NeurIPS 2020. AI for Social Good Workshop at IJCAI 2020. [refereed]

Dutta, S., Chandra, V., **Mehra, K.**, Ghatak, S., Das, A. & Ghosh, S. (2018). *Summarizing Microblogs during Emergency Events: A Comparison of Extractive Summarization Algorithms*. International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS), pp. 859-872. [refereed]

Dutta, S., Chandra, V., **Mehra, K.**, Das, A., Chakraborty, T. & Ghosh, S. (2018). *Ensemble Algorithms for Microblog Summarization*. IEEE Intelligent Systems, Issue on "Summarization of Things", vol. 33, no. 3, pp. 4-14. [refereed]

Mehra, K., Chandra, V. (2017). *Summarizing Microblogs for Emergency Relief and Preparedness*. European Conference on Information Retrieval (ECIR), SMERP Data Challenge Track, Aberdeen, Scotland

HONORS & AWARDS

PwC STAR&R Client Appreciation Award

2020

GAABESU Undergraduate Research Award for excellence in research

2019

President, The Debating Society of IEST Shibpur

2019

SMERP Data Challenge - Summarization Track, SMERP Workshop, ECIR 2017 : 1st Position

2017

TECHNICAL SKILLS

Programming Languages: Python, C, SQL, Splunk SPL, PromQL

Technologies: NumPy, Sklearn, Pandas, Git, Keras, Elasticsearch, Splunk, Prometheus, Grafana