Iknoor Singh

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Professional Experience

Natural Language Processing (NLP) Group, University of Sheffield, UK   Mar 2022 - Present
Research Associate, with GateNLP team, where I contributed to WeVerify, a EU-funded project focused on decentralised content verification and debunking using deep learning for misinformation detection and content analysis.

Amazon, London, UK   Sept - Dec 2022
Applied Scientist Intern, with Alexa Knowledge SLU Team, where I developed novel methods for evaluating and generating topical Alexa utterances, which involved fine-tuning of large language models (LLMs) on Amazon AWS.

Natural Language Processing (NLP) Group, University of Sheffield, UK   Jan - July 2020
Visiting Researcher, with Carolina Scarton and Kalina Bontcheva
Utilised deep learning methods to train a COVID-19 disinformation classifier and conducted an extensive analysis of disinformation with respect to time, volume, media type and origin source.

IBM Research Lab, India   June - Sept 2019
Summer Intern, with Sumit Bhatia
A political ideology detection corpus was developed to visually compare the sentiment scores of news articles with different biases and partisanship. This project was undertaken as part of IBM Global Remote Mentoring.

Queen's University Belfast, Northern Ireland, UK   Jan - May 2019
Research Intern, with Deepak Padmanabhan
Implemented various computational formulations of textual coherence using state-of-the-art deep learning methods in natural language processing to analyse the coherence of fake news articles in comparison to legitimate ones.

DIC, Indian Ministry of Human Resource Development, India   June - Dec 2018
Research Intern, with Naveen Aggarwal
Implemented text preprocessing pipeline for low-resourced Punjabi language and applied machine learning for clustering and plagiarism detection, benefiting Indian universities with Punjabi as their mainstream language.

Education

Doctor of Philosophy, PhD - Computer Science   Sept 2020 - Present
Natural Language Processing Group, University of Sheffield, UK
Supervisors: Carolina Scarton and Kalina Bontcheva
Award: **Fully-funded Doctoral Scholarship**

Bachelor of Engineering with Honours - Information Technology   Sept 2016 - June 2020
Panjab University, Chandigarh, India
Award: **Undergraduate Research Scholarship (4th year)**

Research Interest

I am interested in the field of **Natural Language Processing** and **Deep Learning**. My current work centers around the application area of **cross-lingual information retrieval**, specifically **automated fact-checking**, with a primary focus on claim matching and detecting the spread of multilingual debunked narratives. My long-term ambition is to enhance low-resource and data-scarce NLP, a practical setting that is valuable for both research and industry.

Publications

Please check my Google Scholar for an up-to-date list.

Iknoor Singh, Yue Li, Melissa Thong, and Carolina Scarton. 2022. GateNLP-UShef at SemEval-2022 Task 8: Entity-Enriched Siamese Transformer for Multilingual News Article Similarity. In Proceedings of the 16th International Workshop on Semantic Evaluation (SemEval-2022), pages 1121–1128, Seattle, United States. Association for Computational Linguistics (ACL 2022)

Iknoor Singh, Carolina Scarton, and Kalina Bontcheva. "Multistage BiCross encoder for multilingual access to COVID-19 health information", Public Library of Science (*PLOS ONE) Journal 16(9): e0256874* (2021).

Kokil Jaidka, Andrea Ceolin, **Iknoor Singh**, Niyati Chhaya, and Lyle Ungar. "WikiTalkEdit: A Dataset for modelling Editors' behaviours on Wikipedia." In *Proceedings of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT 2021).*

Xingyi Song, Johann Petrak, Ye Jiang, **Iknoor Singh**, Diana Maynard, and Kalina Bontcheva "Classification Aware Neural Topic Model and its Application on a New COVID-19 Disinformation Corpus", *PLOS ONE Journal 16(2): e0247086* (2021).

Kokil Jaidka, **Iknoor Singh**, Jiahui Liu, Niyati Chhaya and Lyle Ungar "A report of the CL-Aff OffMy-Chest Shared Task: Modeling Supportiveness and Disclosure", in *Proceedings of the 3rd Workshop on Affective Content Analysis @ AAAI (AffCon2020)*

Iknoor Singh, Deepak P and Anoop K, "On the Coherence of Fake News Articles", *Proceeding of ECML/PKDD 2020 News Recommendation and Analysis Workshop*. 2020

Iknoor Singh, Vijay Paul Singh and Naveen Aggarwal, "Comparative Study on Punjabi Document Clustering", in *International Conference on Communication and Intelligent Systems (ICCIS 2019).*

Personal Projects

Automatic Evaluation
- Got **1st prize** in an international-level hackathon conducted by IIT BHU.
Developed an app for automated assessment of subjective answers by comparing the semantic similarity of the user's solution with the correct answer in the database, computing marks accordingly.

Crime Mapping and Prediction
- Got **3rd prize** out of more than 130 teams in a national-level hackathon organised by Nagarro.
Implemented an algorithm that takes safety as the constraint to compute the safest optimal path between two locations. Also, developed a supervised machine learning model for predicting crime in specific areas and times.

Search Through Video
- Got **1st prize** in a hackathon conducted by Panjab University, Chandigarh.
Developed a Python-based app for searching specific sub-topics within videos, enabling users to find the exact timestamp when a sub-topic is discussed without manual searching through lengthy videos.

Responsibilities and Awards

- ❏ Tutored **100+** students as a **Teaching Assistant** for Text Processing modules COM4115 and COM6115 at the Department of Computer Science, University of Sheffield, UK (Fall 2021 semester).
- ❏ Got selected for an **Undergraduate Scholarship** for working on a research project as a part of a research collaboration between Panjab University, India and King Abdulaziz University, Saudi Arabia.
- ❏ **One among 120** students in **India** who got selected for the **Microsoft Student Partner** program.
- ❏ Team lead at **AIESEC**, the world's largest youth-run organisation associated with the **United Nations**.
- ❏ Got **24th** rank in India in Code-n-counter competitive programming conducted by HackerEarth.
- ❏ **Shared Task Organiser** of Interactional Affect (The OffMyChest Shared Task) at the third Affective Content Analysis workshop@AAAI 2020 together with Adobe and the University of Pennsylvania.
- ❏ One among four students who represented my school at **International CBSE Summit** 2014.
- ❏ Active member of SOREM society (NGO), a Society for Rehabilitation of Mentally Challenged where I have been involved in various social events including teaching and helping disabled children.