

# Iknoor Singh

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## Professional Experience

### Natural Language Processing Group, University of Sheffield, UK

Mar 2022 - Present

**Research Associate**, with GateNLP team, where I am utilising deep learning for misinformation detection and content analysis in a European Union-funded research project, benefiting fact-checkers with advanced tools and techniques.

### Amazon, London, UK

Sept - Dec 2022

**Applied Scientist Intern (L5)**, with Alexa Team, where I developed novel methods for evaluating and generating topical utterances, which involved fine-tuning of large language models (LLMs) on AWS, to elevate team's capabilities.

### University of Sheffield, UK

Jan - July 2020

**Visiting Researcher**, with Carolina Scarton and Kalina Bontcheva

Applied deep learning to train a COVID-19 disinformation classifier and conducted a comprehensive analysis of disinformation dynamics, providing critical insights during the global crisis.

### IBM Research Lab, India

June - Sept 2019

**Research Intern**, with Sumit Bhatia

Pioneered the creation of a political ideology detection corpus 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 cutting-edge computational formulations of textual coherence using state-of-the-art deep learning methods to analyse the coherence of fake news articles, contributing to the understanding of disinformation dynamics.

### Ministry of Human Resource Development, India

June - Dec 2018

**Research Intern**, with Naveen Aggarwal

Implemented a text preprocessing pipeline for the low-resourced Punjabi language and applied machine learning for clustering and plagiarism detection, directly benefiting Punjabi-speaking universities.

## 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'm passionate about **Natural Language Processing** and **Deep Learning**, focusing on **cross-lingual information retrieval**, particularly in automated fact-checking. My long-term ambition is to **enhance low-resource** and **data-scarce NLP**, a practical setting that is valuable for both **research** and **industry**.

## Skills

Python, Transformers, Tensorflow, Pytorch, Numpy, Scikit-learn, Pandas, Matplotlib, Elasticsearch, Amazon AWS, Sagemaker, Algorithms, Data Structures, HTML, CSS, Bootstrap, Javascript, Groovy, ReactJS, Unix/Linux, Flask, Gradio

## Publications

Please check my [Google Scholar](#) for an up-to-date list.

**Iknoor Singh**, Kalina Bontcheva, Xingyi Song, and Carolina Scarton. "Comparative Analysis of Engagement, Themes, and Causality of Ukraine-Related Debunks and Disinformation." In International Conference on Social Informatics, pp. 128-143. Cham: Springer International Publishing (SocInfo 2022).

**Iknoor Singh**, Yue Li, Melissa Thong, and Carolina Scarton. "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, 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 16(9): e0256874 (PLOS ONE Journal 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)*.

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 @ AffCon2020 (AAAI 2020)*.

**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

## Personal Projects

### Automatic Evaluation

- Got **1st prize** in an international-level hackathon conducted by IIT BHU.

Developed an innovative app for automated subjective answer assessment, leveraging semantic similarity for accurate marking against a comprehensive answer database.

### Crime Mapping and Prediction

- Got **3rd prize** out of more than 130 teams in a national-level hackathon organised by Nagarro.

Devised a safety-constrained algorithm for calculating the safest optimal path and implemented a supervised machine learning model predicting crime occurrences 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.