Mamta

Postdoctoral Research Associate ·

King's College London

mamta.name@kcl.ac.uk | https://mamtanlp.github.io/ | https://github.com/20118

Work Experience

Since Jan'25 — **Postdoctoral Research Associate**, Department of Informatics, King's College London (KCL)
- Researcher in Natural Language Processing (NLP) on an EPSRC grant.
- Working on assessing and improving the robustness of NLP systems.

July'24 - Dec'24 — **Research Assistant**, Department of Informatics, King's College London

Jan'19- July'24 — **Project Fellow**, Department of Computer Science and Engineering (CSE), Indian Institute of Technology Patna (IITP)
- Worked on Sentiment, Emotion, Sarcasm & Hate speech Classifier (SESH) project in collaboration with Centre For Development of Telematics (C-DOT) Delhi.
  - Developed multi-domain corpora and models for joint modeling of sentiment and emotion analysis, focusing on both English and Hindi languages.
  - Developed models for joint sentiment and sarcasm detection in English Sarcasm and Hate speech detection.

Jun-Nov, 2018 — **Data Scientist**, DevelopTech, Chandigarh, India.
- Designed extremist content detection tool to determine radicalization.

Education

Indian Institute of Technology Patna — *India*

Ph.D. in Computer Science and Engineering — *Jan 2019 - July 2024*
- Advisor: Dr. Asif Ekbal, Associate Professor, CSE, IITP, India
- Thesis Title: Advancing Sentiment Analysis: From Diverse Domains to Multilinguality and Robustness

National Institute of Technology Patna (NITP) — *India*

M.Tech. in Computer Science and Engineering — *August 2016 - June 2018*
- Advisor: Dr. Jyoti Prakash Singh, Associate Professor, CSE, NITP, India
- Thesis Title: Information Diffusion in Online Social Networks
- CPI - 8.65

Guru Nanak Dev University (GNDU) Regional Campus Jalandhar — *India*

B.Tech. in Computer Science and Engineering — *August 2012 - June 2016*
- CPI - 8.60

Area of Interest

Opinion mining in low resource monolingual and code-mixed languages , Fairness in NLP , Model Interpretability , Fact Verification , Adversarial Robustness of uni-modal and multi-modal NLP systems , Dialect Robustness.

Teaching Experience

Machine Learning, Teaching Assistant, KCL
- Delivered tutorials to a small group of students on various machine learning topics, Conducted lab sessions.

Python, Teaching Assistant, IITP
- Conducted lab sessions, Prepared study materials.

Natural Language Processing, Teaching Assistant, IITP
- Prepared study materials, Coursework marking.

Innovation Lab, Teaching Assistant, IITP
- Helped students with their machine learning projects during lab sessions.

Machine Learning, Teaching Assistant, IITP
- Prepared study materials, Coursework marking

Programming Language C, Teaching Assistant, NITP
- Conducted Lab sessions, Delivered tutorials

Tutorials

2025 Delivered a **hands-on session** on pre-trained language models in an online Faculty Development Program organized by NIT Patna.

2020 Delivered a **tutorial** on Sentiment Analysis in Continuing Education Programme (CEP) on natural language processing organized by IIT Patna.

Supervision

2019-2024 **IITP**, 4 Undergraduate and 3 Masters students, **Outcome**: 2 peer-reviewed publications

2025-Present **KCL**, 8 Masters Students

Awards & Academic Accolades

2024 **Google Travel Award** to travel and present a paper at EMNLP, Google India

2023 **Microsoft Travel Award** to travel and present a paper at EMNLP, Microsoft India

2023 **ACM Travel Award** to travel and present a paper at ECIR, ACM India

2023 **Diversity and Inclusion Grant** to travel and present a paper at EMNLP, EMNLP

2016 **Branch Topper in M.Tech.**, NITP

2015 **Runner-Up in SWITCH CODING**, Annual Techfest Insignia, GNDU RC, Jalandhar

Organisation and Service

PC Member, ACL, EMNLP, NAACL, ICONIP, ICON, ECAI.

Reviewer, Neural Networks, Expert Systems with Applications, Information Fusion, Computer Speech and Language, Sadhna, ACM TALLIP, Computer Science, Applied Intelligence.

2023	**Volunteer**, ECIR.	*Dublin*
2022	**Volunteer**, GIAN Course on Deep Learning Techniques for Conversational AI.	*IIT Patna*
2022	**Volunteer**, Workshop on Data Visualization, Data Analysis, and Machine Learning.	*IIT Patna*
2020	**Volunteer**, CEP Course on Deep Learning for Natural Language Processing.	*IIT Patna*
2019	**Volunteer**, GIAN Course on Unsupervised Data Mining: From Batch to Stream Mining Algorithms.	*IIT Patna*
2015	**Organizer**, Technical Event POOL PUZZLE in Annual Techfest Insignia.	*GNDU*

Publications

Mamta, and Oana Cocarascu, **FactEval: Evaluating the Robustness of Fact Verification Systems in the Era of Large Language Models.** In 2025 Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics, **(NAACL-Oral 2025)**.

Mamta, Rishikant Chigrupaatii , and Asif Ekbal, **BiasWipe: Mitigating Unintended Bias in Text Classifiers through Model Interpretability.** In 2024 Conference on Empirical Methods in Natural Language Processing, Florida, Association for Computational Linguistics, **(EMNLP-Oral 2024)**.

Mamta and Asif Ekbal, **Atmosphere kamaal ka tha (was wonderful): A Multilingual Joint Learning Framework for Aspect Category Detection and Sentiment Classification**, In IEEE Transactions on Computational Social Systems, **(IEEE TCSS 2024)**.

Mamta, Gopendra Vikram Singh, Deepak Raju Kori and Asif Ekbal, **Aspect-Based Multimodal Mining: Unveiling Sentiments, Complaints, and Beyond in User-Generated Content.** In Proceedings of the ACM MULTIMEDIA 2024, Melbourne, Australia, **(ACM MULTIMEDIA 2024)**.

Mamta and Asif Ekbal. "**Quality achhi hai (is good), satisfied! Towards aspect based sentiment analysis in code-mixed language**". In: Computer Speech & Language **(CSL 2024)**.

Mamta and Asif Ekbal. "**Transformer based multilingual joint learning framework for code- mixed and english sentiment analysis**". In: Journal of Intelligent Information Systems, **(JIIS 2024)**.

Mamta, Zishan Ahmad and Asif Ekbal. **Elevating Code-mixed Text Handling through Auditory Information of Words.** In Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing, Singapore. Association for Computational Linguistics, **(EMNLP-Oral 2023)**.

Mamta, and Asif Ekbal. **Service Is Good, Very Good or Excellent? Towards Aspect Based Sentiment Intensity Analysis.** European Conference on Information Retrieval. Cham: Springer Nature Switzerland, 2023, **(ECIR-Oral 2023)**.

Mamta and Asif Ekbal. **Adversarial Sample Generation for Aspect based Sentiment Classification**. In Findings of the Association for Computational Linguistics, **(AACL-IJCNLP 2022)**.

Mamta, Asif Ekbal, and Pushpak Bhattacharyya. **Exploring Multi-lingual, Multi-task, and Adversarial Learning for Low-resource Sentiment Analysis.** ACM Transactions on Asian and Low-Resource Language Information Processing, **(ACM-TALLIP 2022)**.

Mamta, Asif Ekbal, Pushpak Bhattacharyya, Tista Saha, Alka Kumar, and Shikha Srivastava. **HindiMD: A Multi-domain Corpora for Low-resource Sentiment Analysis**. In Proceedings of the Thirteenth Language Resources and Evaluation Conference, **(LREC 2022)**.

Mamta, Asif Ekbal, Pushpak Bhattacharyya, Shikha Srivastava, Alka Kumar, and Tista Saha. **Multi-domain Tweet Corpora for Sentiment Analysis: Resource Creation and Evaluation.** In Proceedings of the Twelfth Language Resources and Evaluation Conference, **(LREC 2020)**.

P Behera, **Mamta**, Asif Ekbal. **Only text? only image? or both? Predicting sentiment of internet memes.** In Proceedings of the Seventeenth International Conference on Natural Language Processing, **(ICON 2020)**.

Under Review

Mamta and Oana Cocarascu, I-GUARD: Interpretability-Guided Parameter Optimization for Adversarial Defense , **EMNLP 2025**.

Mamta and Asif Ekbal, FairRefine: Measuring and Reducing Social Issues Bias in Multi-domain Sentiment Classifiers through Neuron Pruning , **Neural Netowrks, Elsevier**.

Mamta, Karanjot Singh, Deeksha Varshney and Asif Ekbal, DialGuard: Leveraging Auditory and Homoglyph Properties to Defend Dialogue Systems against Adversarial Attacks , **IEEE Transaction on Artificial Intelligence**.