

Shivani Kumar, Ph.D.

Postdoctoral Research Fellow at University of Michigan

📍 Ann Arbor, MI, USA | 🌐 [shivanik96.github.io](https://github.com/shivanik96) | ✉ kshivan@umich.edu | 📱 [shivanik96](https://www.linkedin.com/in/shivanik96)

RESEARCH INTEREST

My research interests lie into exploring how Large Language Models tackle RHETORICAL ANALYSIS, especially in conversations. I am interested in probing the three verticals of rhetoric: ETHOS, PATHOS, and LOGOS. For ETHOS, I'm excited to examine how cultural values, credibility, and trust shape dialogues. With PATHOS, I'm keen on understanding how emotions are managed and expressed in LLM interactions. And for LOGOS, I wish to analyze how these models craft and navigate logical arguments.

EXPERIENCE

- **University of Michigan** May 2024 - Present
Postdoctoral Research Fellow Ann Arbor, Michigan, USA
Advisor: Prof David Jurgens
Topic: Moral Values, Cultural Influence, and Large Language Models
- **Adobe Inc.** January 2023 - June 2023
PhD Intern Noida, Uttar Pradesh, India
Advisors: Dr. Sumit Bhatia, Milan Aggarwal
Topic: Dialogue Foundation Model

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PREPRINT

- [P.1] Johnathan Ivey*, **Shivani Kumar***, Jiayu Liu*, Hua Shen*, Sushrita Rakshit*, Rohan Raju*, Hao-tian Zhang*, Aparna Ananthasubramaniam*, Junghwan Kim*, Bowen Yi*, Dustin Wright*, Abraham Israeli*, Anders Giovanni Møller*, Lechen Zhang*, David Jurgens. [Real or Robotic? Assessing Whether LLMs Accurately Simulate Qualities of Human Responses in Dialogue](#). *ArXiv Preprint*, 2024.
- [J.6] **Shivani Kumar**, Sumit Bhatia, Milan Aggarwal, Tanmoy Chakraborty. [Dialogue Agents 101: A Beginner's Guide to Critical Ingredients for Designing Effective Conversational Systems](#) *Natural Language Processing (formerly Natural Language Engineering)*, 2024.
- [C.6] **Shivani Kumar**, Md Shad Akhtar, Erik Cambria, Tanmoy Chakraborty. [SemEval 2024–Task 10: Emotion Discovery and Reasoning its Flip in Conversation \(EDiReF\)](#) *The North American Chapter of the Association for Computational Linguistics (NAACL)*, 2024.
- [J.5] Prottay Kumar Adhikary, Aseem Srivastava, **Shivani Kumar**, Salam Michael Singh, Puneet Manuja, Jini K Gopinath, Vijay Krishnan, Swati Kedia, Koushik Sinha Deb, Tanmoy Chakraborty. [Exploring the Efficacy of Large Language Models in Summarizing Mental Health Counseling Sessions: A Benchmark Study](#) *Journal of Medical Internet Research (JMIR)*, 2024.
- [J.4] Priyadarshini Rai, Atishay Jain, **Shivani Kumar**, Divya Sharma, Neha Jha, Smriti Chawla, Abhijit Raj, Apoorva Gupta, Sarita Poonia, Angshul Majumdar, Tanmoy Chakraborty, Gaurav Ahuja, Debarka Sengupta. [Literature mining discerns latent disease gene relationships](#) *Bioinformatics*, 2024.
- [C.5] **Shivani Kumar**, Rishabh Gupta, Md Shad Akhtar, Tanmoy Chakraborty. [Adding SPICE to Life: Speaker Profiling in Multiparty Conversations](#) *Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING)*, 2024.
- [C.4] **Shivani Kumar**, Tanmoy Chakraborty. [Harmonizing Code-mixed Conversations: Personality-assisted Code-mixed Response Generation in Dialogues](#). *Conference of the European Chapter of the Association for Computational Linguistics (EACL) - Findings*, 2024.
- [C.3] **Shivani Kumar**, Ramaneswaran S, Md Shad Akhtar, Tanmoy Chakraborty. [From Multilingual Complexity to Emotional Clarity: Leveraging Commonsense to Unveil Emotions in Code-Mixed Dialogues](#). *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2023.
- [J.3] **Shivani Kumar**, Shubham Dudeja, Md Shad Akhtar, Tanmoy Chakraborty. [Emotion Flip Reasoning in Multiparty Conversations](#). *IEEE Transactions on Artificial Intelligence*, 2023.

- [C.2] **Shivani Kumar**, Ishani Mondal, Md Shad Akhtar, Tanmoy Chakraborty. [Explaining \(Sarcastic\) Utterances to Enhance Affect Understanding in Multimodal Dialogues](#). *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI 2023)*.
- [C.1] **Shivani Kumar***, Atharva Kulkarni*, Md Shad Akhtar, Tanmoy Chakraborty. [When did you become so smart, oh wise one?! Sarcasm Explanation in Multi-modal Multi-party Dialogues](#). *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL 2022)*.
- [J.2] **Shivani Kumar**, Anubhav Shrima, Md Shad Akhtar, Tanmoy Chakraborty. [Discovering Emotion and Reasoning its Flip in Multi-Party Conversations using Masked Memory Network and Transformer](#). *Knowledge-Based Systems*, 2022.
- [J.1] Manjot Bedi*, **Shivani Kumar***, Md Shad Akhtar, Tanmoy Chakraborty. [Multi-modal Sarcasm Detection and Humor Classification in Code-mixed Conversations](#). *IEEE Transactions on Affective Computing*, 2021.

EDUCATION

- **Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi)** 2019 - 2024
Doctor of Philosophy (Ph.D.) Delhi, India
 - Thesis Title: Understanding and Explaining Affective Traits in English and Code-mixed Conversations
 - Advisor: Prof. Tanmoy Chakraborty
- **University of Delhi – Department of Computer Science** 2017 - 2019
Masters of Sciences (M.Sc.) in Computer Science Delhi, India
 - Thesis Title: Using Complex Networks for Generating Concept Maps
 - Advisor: Prof. Vasudha Bhatnagar
 - Aggregate: 87.5% (GPA: 3.5/4.0)
- **University of Delhi – Shaheed Sukhdev College of Business Studies** 2014 - 2017
Bachelors of Sciences (B.Sc.) in Computer Science Delhi, India
 - Aggregate: 92.5% (GPA: 3.7/4.0)
- **Queen Marys School, Tis Hazari** 2002 - 2014
School Education Delhi, India
 - **Senior Secondary**, CBSE: 91.2% (3.6/4.0 GPA)
 - **Secondary**, CBSE: 91.2% (3.6/4.0 GPA)

TEACHING ASSISTANT

- **Social Network Analysis** 2023, 2022
National Programme on Technology Enhanced Learning (NPTEL) – an Indian MOOCs Platform
- **Social Network Analysis** 2022
Teaching Assistant at IIIT-Delhi
- **Machine Learning** 2021
Teaching Assistant at IIIT-Delhi
- **Natural Language Processing** 2021
Teaching Assistant for PG Diploma in Data Science and AI at IIIT-Delhi

INVITED TALKS

- **University of Michigan DSCSS seminar series** 2024
Invited talk on “Affective Traits of Natural Language” Ann Arbor, Michigan, US
- **ACM-India’s Symposium for Academic Research and Careers for Students** 2023
Lightning Talk and Poster Presentation NISER Bhubhaneshwar, India
- **International Conference on Natural Language Processing (ICON)** 2023
Tutorial on “Building Blocks of AI-Driven Mental Health Counseling” University of Goa, India
- **Google Research Week** 2024, 2023
Poster Presentation Bangalore, India
- **Guest lecture on “Social Media Analytics”** 2022, 2021, 2019
For Research Methods in Social Science and Design (RMSSD) course IIIT-Delhi, India

AWARDS AND ACHIEVEMENTS

- **Selected as a DAAD AInet fellow for the Postdoc-NeT-AI** Oct 2024
Includes a virtual networking week and a one-week networking visit to Germany.
- **Microsoft Travel Grant, ACM-Woman Travel Grant** Nov 2023
For Travel to Singapore for EMNLP.
- **Google Travel Grant, Microsoft Travel Grant, ACM-India Travel Grant (IARCS)** Apr 2022
For Travel to Dublin, Ireland for ACL.
- **Junior Research Fellowship (JRF)** Jul 2019
Qualified UGC-NET, a standardized test by the University Grants Commission (UGC), India.
- **Certificate of Merit** Jul 2017
From Shaheed Sukhdev College of Business Studies for academic excellence in Bachelors.

POSITIONS OF RESPONSIBILITY

- **Co-Organiser at EDiReF** 2024
Shared Task in SemEval Workshop @ NAACL
- **Program Committee at ICON** 2022
International Conference on Natural Language Processing
- **Program Committee at CONSTRAINT** 2022
Workshop on Combating Online Hostile Posts in Regional Languages during Emergency Situation @ ACL
- **Co-Organiser at ACSS** 2021, 2020
Workshop on AI for Computational Social Systems
- **Co-Organiser at COFAD** 2020
Workshop on Combating Fraud Activities using Data Science

COMMUNITY SERVICE

- **Paper Reviewer** 2024
ICLR, ARR, ASONAM, WiNLP, Cluster Computing, IEEE Transactions on Artificial Intelligence
- **Paper Reviewer** 2023
ARR, EMNLP
- **Paper Reviewer** 2022
EMNLP, ICON, CHI, DAFSAA
- **Student Mentor** 2022
For the "Desh ka Mentor" program of Delhi Government. Mentored four high school students.
- **Rapporteur** 2019
For The International Colloquium on Ethics and Governance of Autonomous AI Systems

ADDITIONAL INFORMATION

Fluent Languages: • English • Hindi

Interests: • Crocheting • Photography • Reading • Writing • Music • Art

REFERENCES

1. **Prof David Jurgens**
Associate Professor, School of Information
University of Michigan
Email: jurgens@umich.edu
Relationship: Postdoc Advisor
2. **Prof Tanmoy Chakraborty**
Associate Professor, Dept. of Electrical Engineering (Computer Technology Group); Associate Faculty
Member, Yardi School of Artificial Intelligence
Indian Institute of Technology Delhi (IIT Delhi), India
Email: tanchak@iitd.ac.in, chak.tanmoy.iit@gmail.com*
Relationship: PhD Advisor

3. **Dr. Md Shad Akhtar**

Assistant Professor, Department of Computer Science and Engineering
Indraprastha Institute of Information Technology (IIIT) Delhi
Email: shad.akhtar@iiitd.ac.in
Relationship: Mentor and Professor

4. **Prof Vasudha Bhatnagar**

Professor, Dept. of Computer Science
University of Delhi
Email: vbhatnagar@cs.du.ac.in
Relationship: Master's Advisor

5. **Dr. Sumit Bhatia**

Senior Machine Learning Scientist, Media and Data Science Research Lab
Adobe Inc.
Email: sumit.bhatia@adobe.com, sumit.summit@gmail.com*
Relationship: Internship Advisor