Sree Bhattacharyya

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Education

Ph.D. in Informatics   Aug 2023 – present | State College, PA
Pennsylvania State University
Advisor: Dr. James Z. Wang ✏ ; Research Areas: Affective Computing, Multimodal AI

Publications

[1] Cultural Influences on Emotion Expression: Evaluating AI Alignment
Working Paper

[2] ABEE: A Large-scale Bodily Expressed Emotions Dataset and Community Infrastructure
Working Paper

[3] Do Machines Think Emotionally? Cognitive Appraisal Analysis for LLMs ✏
Sree Bhattacharyya, Lucas Craig, Tharun Dilliraj, Jia Li, James Z. Wang
Working Paper
20th Women in Machine Learning Workshop **(WiML 2025)** at The Thirty-Ninth Annual Conference on Neural Information Processing Systems **(NeurIPS 2025)**

[4] Unsupervised Memorability Modeling from Tip-of-the-Tongue Retrieval Queries
Sree Bhattacharyya, Yaman K. Singla, Sudhir Yarram, Somesh Singh, Harini SI, James Z. Wang
Under Review at The IEEE/CVF Winter Conference on Applications of Computer Vision **(WACV 2026)**

[5] Evaluating Vision-Language Models for Emotion Recognition ✏
Sree Bhattacharyya, James Z. Wang
Findings of The 2025 Annual Conference of The Nations of the Americas Chapter of the Association for Computational Linguistics **(NAACL 2025 Findings)**

[6] A Heterogeneous Multimodal Graph Learning Framework for Emotion Recognition in Social Networks ✏
Sree Bhattacharyya, Shuhua Yang, James Z. Wang
12th International Conference on Affective Computing and Intelligent Interaction **(ACII)**, 2024 **(Oral)**

[7] Link Prediction for Social Networks using Representation Learning and Heuristic-based Features ✏
Samarth Khanna*, **Sree Bhattacharyya***, Sudipto Ghosh, Kushagra Agarwal, Asit Kumar Das
9th International Workshop on Mining Actionable Insights from Social Networks **(MAISoN)** at the 32nd International Joint Conference on Artificial Intelligence **(IJCAI)**, 2023.
*equal contribution

[8] Towards Bengali WordNet Enrichment using Knowledge Graph Completion Techniques ✏
**Sree Bhattacharyya**, Abhik Jana
Proceedings of the Workshop on Resources and Technologies for Indigenous, Endangered and Lesser-resourced Languages in Eurasia **(EURALI)** within the 13th Language Resources and Evaluation Conference **(LREC)**, 2022

Selected Research Projects

Community Data Infrastructure for Bodily Expressed Emotions   Aug 2023 – present
(NSF CCRI):

- Collaborators: *Dr. Amy LaViers ✏ (RAD LAB), Dr. Rachelle Tsachor ✏ (UIC), Dr. Reginald Adams ✏ , Dr. Michelle Newman ✏ (PSU)*
- Collecting a large-scale video dataset (~300k samples) for bodily expressed emotions. [2]
- Building an infrastructure to host similar datasets, and support functions like content-based retrieval of videos.
- Planning and conducting a robotics feasibility study, exploring how social robots can learn nonverbal emotional cues.

Technologies: *Amazon MTurk, SQL, PHP, PyTorch, Multimodal Retrieval*

Content Memorability with Web-Scale Data [4]   Jan 2025 – present
- Collaborator: *Dr. Yaman K. Singla (Adobe Research ⊘).*
- Curated large-scale memorability data from online platforms like Reddit, including descriptive recall signals.
- Proposed a novel task of recall generation, with a fine-tuned model, and the first model for multimodal Tip-of-the-tongue retrieval.

Technologies: PyTorch, Huggingface Transformers, Large Vision-Language Models, Fine-Tuning

Studying Cultural Representations of Emotions in LLMs [1]   Jan 2025 – present
- Collaborators: *Dr. Shiran Dudy ⊘ , Dr. Agata Lapedriza ⊘ (Northeastern University)*
- Replicating a human study on cultural differences (independence vs. interdependence) in emotional expressions, with LLMs.
- Studying additional differences along demographic axes like age and gender, and how well LLMs capture them.

Technologies: LLMs, Prompting, Statistical Analysis

Cognitive Appraisals and LLMs [3]   Apr 2025 – present
- Collaborators: Dr. Jia Li ⊘ (Penn State)
- Creating a new task and benchmark to evaluate the alignment of LLMs with theoretical notions of emotional appraisal [3]
- Studying the impact of cognitive appraisals on downstream tasks.
- Using cognitive appraisals to study the internal circuitry of emotion-related inference.

Technologies: LLMs, PyTorch, Huggingface Transformers, vLLM, Prompting, Statistical Analysis

Emotion Recognition Using Vision-Language Models [5]   May 2024 – Oct 2024
- Evaluating Vision-Language Models for Evoked Emotion Recognition on the image modality.
- Detailed analysis of robustness of models, and error cases.

Technologies: LLMs, PyTorch, Huggingface Transformers, vLLM, Prompting, Statistical Analysis

Experience

Graduate Assistant   Aug 2023 – present | State College, US
The Pennsylvania State University
Research Assistant with the Wang Group ⊘ .
Teaching Assistant for Applied Data Science (Fall 2024).

Software Engineer   Jul 2022 – Aug 2023 | Bangalore, India
Microsoft (Azure Storage)

DAAD-WISE Research Fellow   May 2021 – Oct 2021 | Hamburg, Germany
University of Hamburg

Software Engineer Intern   Jun 2021 – Jul 2021 | Remote
Microsoft (Digital Security and Risk Engineering)

Selected Awards

- Selected to attend **GHC 2025** in-person, sponsored by **College of IST, PSU**.
- **Vice Provost and Dean of the Graduate School Student Persistence Scholarship (Summer 2025):** Awarded $4500 by the Penn State Graduate School for research.
- **NAACL DEI and Volunteer Award (2025).**
- **Penn State College of IST Rising Star Award** runner-up for research excellence.
- **Jordan-Rednor Graduate Fellowship (Fall 2023):** merit-based fellowship of $6000 from College of IST, Penn State.

Academic Services

Reviewing: ACL Rolling Reviews: Dec 2023 - Dec 2024; IEEE Transactions on Affective Computing (2025).
Volunteering: NAACL 2025, AmericasNLP Workshop 2025, BEEU Workshop @ AAAI 2026 (Organizer).