

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

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 – Nov 2025

- 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

Meaning-Compression Tradeoff in LLMs for Human-Like

Oct 2025 – Present

Concepts

- Collaborators: Dr. Chen Shani [✉](#) (Stanford University), Dr. Ravid Shwartz-Ziv [✉](#) (NYU)
- Exploring post-training with a novel objective function, building on the paper "From Tokens to Thoughts: How LLMs and Humans Trade Compression for Meaning [✉](#)"

Technologies: LLMs, LLM Post-Training, Huggingface Transformers

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 benchmark to evaluate the alignment of LLMs with theoretical notions of emotional appraisal [3]
- Studying the impact of cognitive appraisals on downstream tasks.

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

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 @ AAI 2026 (Organizer).