

Sree Bhattacharyya

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 Personal Webpage

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
<ul style="list-style-type: none"> Collaborator: Dr. Yaman K. Singla (<i>Adobe Research</i>). 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. 	
<i>Technologies: PyTorch, Huggingface Transformers, Large Vision-Language Models, Fine-Tuning</i>	
Meaning-Compression Tradeoff in LLMs for Human-Like Concepts	Oct 2025 – Present
<ul style="list-style-type: none"> Collaborators: Dr. Chen Shani (Stanford University), Dr. Ravid Shwartz-Ziv (NYU) Exploring post-training with a novel objective function, building on the paper "<i>From Tokens to Thoughts: How LLMs and Humans Trade Compression for Meaning</i>" 	
<i>Technologies: LLMs, LLM Post-Training, Huggingface Transformers</i>	
Studying Cultural Representations of Emotions in LLMs [1]	Jan 2025 – present
<ul style="list-style-type: none"> Collaborators: Dr. Shiran Dudy (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. 	
<i>Technologies: LLMs, Prompting, Statistical Analysis</i>	
Cognitive Appraisals and LLMs [3]	Apr 2025 – present
<ul style="list-style-type: none"> 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. 	
<i>Technologies: LLMs, PyTorch, Huggingface Transformers, vLLM, Prompting, Statistical Analysis</i>	
Emotion Recognition Using Vision-Language Models [5]	May 2024 – Oct 2024
<ul style="list-style-type: none"> Evaluating Vision-Language Models for Evoked Emotion Recognition on the image modality. Detailed analysis of robustness of models, and error cases. 	
<i>Technologies: LLMs, PyTorch, Huggingface Transformers, vLLM, Prompting, Statistical Analysis</i>	
Experience	
Graduate Assistant	Aug 2023 – present State College, US
<i>The Pennsylvania State University</i>	
Software Engineer	Jul 2022 – Aug 2023 Bangalore, India
<i>Microsoft (Azure Storage)</i>	
DAAD-WISE Research Fellow	May 2021 – Oct 2021 Hamburg, Germany
<i>University of Hamburg</i>	
Software Engineer Intern	Jun 2021 – Jul 2021 Remote
<i>Microsoft (Digital Security and Risk Engineering)</i>	
Selected Awards	
<ul style="list-style-type: none"> 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).	