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

Bachelor of Technology in Computer Science and Technology   2018 – 2022 | Howrah, India
Indian Institute of Engineering Science and Technology, Shibpur, India ✐
CGPA: 9.86/10, University Rank: 3/600, Transcripts ✐

Publications

[1] **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**)

[2] **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**)

[3] **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

[4] **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
Poster ✐ , Talk ✐

Research Experience

Graduate Research Assistant   Aug 2023 – present | State College, PA
The Pennsylvania State University
- **Community Data Infrastructure for Bodily Expressed Emotions (NSF CCRI) (Aug 2023 - Present)**:
  - Collaborators: *Dr. Amy LaViers* ✐ , *Dr. Rachelle Tsachor* ✐ , *Dr. Reginald Adams* ✐ , *Dr. Michelle Newman* ✐
  - Creating a large-scale video dataset (~300k samples) for bodily expressed emotions.
  - Creating a data distribution infrastructure for the research community and users, supporting features like uploading and downloading custom emotion datasets, content-based filtering, etc.
  - Planning and conducting a robotics feasibility study, exploring how social robots can learn nonverbal emotional cues.
- **Evaluating VLMs on the most widely-used evoked emotion datasets through multimodal prompts and detailed error analysis [1] (May 2024 - Oct 2024)**.
- **Studying demographic biases (along the axes of gender identity and culture) reflected by large models in emotion-related tasks** (in collaboration with Dr. Shiran Dudy (Northeastern) ✐) **(Jan 2025 - Present)**.
- **Neuroscience-inspired model design (Oct 2024 - Present)**:
  - Creating models with different components mimicking reward and punishment processing centers in the human brain.
  - Creating a multi-agent system with different components working as different brain parts involved in emotion processing.
- **Content Memorability with Web-Scale Data (Jan 2025 - Present)**

- Collaborator: *Dr. Yaman K. Singla (Adobe Research ⊘).*
- Building a complete framework to predict memorability of content across all modalities, through unsupervised learning using web data.
- Mining web data to gather insights into human behavior and memory, and to correlate them with other aspects of online content such as popularity and predictability.

Skills: *Python, PyTorch, LLMs, HTML, PHP, MySQL*

Undergraduate Research Assistant (Thesis)   Oct 2021 – May 2022 | Howrah, India
Indian Institute of Engineering Science and Technology, Shibpur
Advisor: Dr. Asit Kumar Das ⊘ . Work on Deep Graph Learning for diagnosis of Alzheimer's Disease Progression, and link prediction in social networks [3].
Skills: *Python, Tensorflow, Ampligraph, KarateClub*

Research Intern (DAAD-WISE Fellow) [4]   Feb 2021 – Sep 2021 | Hamburg, Germany
University of Hamburg
Advisor: Dr. Chris Biemann, Dr. Abhik Jana. Worked on enriching a lexical resource (WordNet) for Bengali, a low-resource Indian language, using knowledge graph completion techniques and a distributional thesaurus.
Skills: *Python, Tensorflow*

Industry Experience

Software Engineer   Jul 2022 – Aug 2023 | Bangalore, India
Microsoft (Azure Storage)
Worked on the Hadoop Connector for Azure Storage. Made regular open-source contributions in Java to the popular repository of Apache Hadoop ⊘ .

Software Engineer Intern   Jun 2021 – Jul 2021 | Remote
Microsoft (Digital Security and Risk Engineering)
Worked on Azure DevOps security scanner to develop a new incremental scan feature. The work was recognized by the Chief Information Security Officer (CISO) at Microsoft.

Student Contributor   Sep 2020 – Mar 2021 | Remote
CMS GEM Collaboration: CERN
Created a database for storing CMS experiment configurations history.

Awards

- **NAACL DEI and Volunteer Award (2025).**
- **Jordan-Rednor Graduate Fellowship (Fall 2023):** merit-based fellowship from IST, Penn State.
- **Smt. Uma Rani Neogi Scholarship (March 2022):** female student with the highest CGPA across all disciplines in the university.
- **DAAD Working Internships in Science and Engineering fellowship** ⊘ (2021).
- **IAS-INSA-NASI Summer Research Fellowship (Indian Academy of Sciences' SRFP 2021).**
- 4-year long science Scholarship from **Jagadish Bose National Science Talent Search (JBNSTS) Organization** ⊘ (2018-22 batch) for undergraduate studies.

Academic Services

Reviewing: ACL Rolling Reviews: Dec 2023, recognized as great review; Feb 2024, recognized as great review; June 2024, Aug 2024, Oct 2024, Dec 2024.

Volunteering and Extra-Curricular Activities

- Lead Student Organizer of **AI for Social Impact Seminar Series** at Penn State
- Project Mentor for underrepresented CS undergrad students at **AI4All**
- Section Leader at the **Stanford University Code In Place** Program (2024)
- Mentor at **IIEST GDSC Women In Technology (WIT)** Chapter.
- Theatre actor in 'Sayak' (2009-15): professional theatre in India.
- Indian classical and folk music vocals: training and professional performer on television and radio.