Suman Adhya

PhD Scholar at SMCS in IACS

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i Short Bio

I am a final-year Ph.D. student at SMCS in IACS, under the supervision of Dr. Debarshi Kumar Sanyal. My research focuses on Natural Language Processing (NLP), particularly on topic models. These models are unsupervised techniques used to extract underlying themes or topics from collections of documents.

🎹 Education

Oct 2020 Sep 2025*	Indian Association for the Cultivation of Science Ph.D. from the School of Mathematical & Computational Sciences (SMCS)	Kolkata, India
Aug 2018 Jul 2020	Indian Association for the Cultivation of Science M.Sc. in Mathematics & Computing from SMCS	Kolkata, India
2015 2018	Serampore College, University of Calcutta B.Sc.(Hons.) in Mathematics	Kolkata, India

Publications

J=Journal, C=Conference, W=Workshop

[1] Evaluating Negative Sampling Approaches for Neural Topic Models [%] Suman Adhya, Avishek Lahiri, Debarshi Kumar Sanyal, and Partha Pratim Das IEEE Transactions on Artificial Intelligence

[IEEE-TAI]

[c] GINopic: Topic Modeling with Graph Isomorphism Network [%] Suman Adhya and Debarshi Kumar Sanyal North American Chapter of the Association for Computational Linguistics, Mexico City, Mexico

[NAACL'24]

- Do Neural Topic Models Really Need Dropout? Analysis of the Effect of Dropout in Topic Modeling [%] [c] Suman Adhya, Avishek Lahiri, and Debarshi Kumar Sanyal 17th European Chapter of the Association for Computational Linguistics, Dubrovnik, Croatia [EACL'23]
- Improving Neural Topic Models with Wasserstein Knowledge Distillation [%] Suman Adhya and Debarshi Kumar Sanyal 45th European Conference on Information Retrieval, Dublin, Ireland

[ECIR'23]

Improving Contextualized Topic Models with Negative Sampling [%] [c] Suman Adhya, Avishek Lahiri, Debarshi Kumar Sanyal, and Partha Pratim Das 19th International Conference on Natural Language Processing, New Delhi, India

[ICON'22]

[w] What Does the Indian Parliament Discuss? An Exploratory Analysis of the Question Hour in the Lok Sabha

Suman Adhya and Debarshi Kumar Sanyal

1st Workshop on Natural Language Processing for Political Sciences, LREC, Marseille, France

[PoliticalNLP @ LREC'22]

🗱 Skills

Research Interests NLP - Topic Modeling, Machine Learning - Variational Inference, Information Theory -

Rate-Distortion Theory

Python, PyTorch and PyG, Deep Graph Library, TensorFlow, Git **Technical Expertise**

Presentations

> NAACL 2024, Poster Presentation

> PIC 2024, Poster Presentation

> EACL 2023, Poster Presentation

> ECIR 2023, Short Paper Presentation

> ICON 2022, Full Paper Presentation

> PoliticalNLP @ LREC 2022, Poster Presentation

June 2024 (Virtual) Feb 2024 (Mysore, India) May 2023 (Dubrovnik, Croatia) March 2023 (Virtual) December 2022 (IIIT-Delhi, India) June 2022 (Virtual)

Travel Grants and Awards

Microsoft Research Travel Grant, 2024 []: Awarded for presenting our paper at NAACL'24 held in Mexico City, Mexico. **ACM India-IARCS Travel Grant, 2024** [3]: Awarded for presenting our paper at NAACL'24 held in Mexico City, Mexico. Microsoft Research Travel Grant, 2023 []: Awarded for presenting our paper at EACL'23 held in Dubrovnik, Croatia. **The INSPIRE-SHE Award, DST, 2015-2018** [**②**] : Awarded for securing a top 1% rank in Class 12th examinations.

Teaching Assistant

Introduction to Machine Learning [PHD 226/COM 4203], IACS

January - June, 2024

January - June, 2021

2023-2024

> Responsibilities included setting and evaluating assignments.

Laboratory - Numerical methods (PHS 4211), IACS

> Responsibilities included setting and evaluating lab assignments.

Academic Responsibility

Volunteer coordinator EACL'23 🖸

Review committee member EMNLP'24 Industry Track C, ARR - June'24 C, ARR - April'24 C, ARR - February'24 C, ACL'23

☑, EMNLP'22 ☑

Program committee member PoliticalNLP'24 C, EMNLP'23 Industry Track C, PoliticalNLP'22 C

Social Responsibility

Student representative at the anti-ragging cell in IACS 2023 - Current Research and technical assistant at Research Scholars' Association in IACS

System manager at Research Scholars' Association in IACS 2022-2023

66 References

> 🗗 Dr. Debarshi Kumar Sanyai	Assistant Professor of School of Mathematical & Computational Sciences, IACS
> 🗹 Prof. Partha Pratim Das	Professor of Computer Science, Ashoka University
> 🗹 Dr. Sudip Kumar Naskar	. Associate Professor of Computer Science & Engineering Department, Jadavpur University