

IndoNLP 2025

**Proceedings of the First Workshop on Natural Language
Processing for Indo-Aryan and Dravidian Languages
(IndoNLP2025)**

Proceedings of the Workshop

January 20, 2025

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Preface

The rapid advancement of Natural Language Processing (NLP) and Large Language Models (LLMs) has transformed the landscape of computational linguistics. However, Indo-Aryan and Dravidian Languages (IADL), which represent a significant portion of South Asia's linguistic heritage, remain under-resourced and under-researched in these technological developments. This workshop aims to bridge this gap by bringing together researchers, linguists, and technologists to focus on the unique challenges and opportunities. Participants will explore innovative methods for creating and annotating digital corpora, develop speech and language technologies suited to IADL, and promote interdisciplinary collaborations. By leveraging LLMs, we seek to address the complexities of syntax, morphology, and semantics in these languages to enhance the performance of NLP applications. Furthermore, the workshop will provide a platform for sharing best practices, tools, and resources, enhancing the digital infrastructure necessary for language preservation. Through collaborative efforts, we aim to build a research community to advance NLP for IADL, contributing to linguistic diversity and cultural preservation in the digital age.

In parallel with the workshop, we have also organised a shared task to address key challenges in transliteration for Indian languages. The primary objectives of the shared task are to develop a real-time transliterator, effectively manage linguistic variations, and improve typing accuracy. A significant focus of the task is on enabling the transliterator to handle ad-hoc transliterations, which involve short typing scripts and diverse typing patterns, with or without vowel combinations. This initiative aims to create a robust transliteration system that accommodates the dynamic and complex nature of typing practices in Indian languages.

We received 27 submissions for the workshop and shared task. Following the review process, we accepted 15 papers and 4 shared task submissions to appear in the workshop proceedings.

The success of IndoNLP 2025 would not have been possible without the contributions of several exceptional individuals who supported this initiative. First and foremost, we extend our heartfelt gratitude to the authors who submitted their work to the workshop, driving forward research in low-resource languages across diverse areas of study. We are equally thankful to the program committee members, whose dedicated efforts were instrumental to the success of this workshop. Their timely engagement in the review process and constructive feedback not only enhanced the quality of the submissions but also ensured that the papers met the highest academic standards. Moreover we would like to thank to Prof. Pushpak Bhattacharyya for accepting our invitation to be as the keynote speaker in the workshop. Finally, we would like to express our sincere gratitude to the Informatics Institute of Technology, Colombo, for their generous sponsorship of the workshop. We are truly thankful to everyone who contributed to the success of IndoNLP 2025 through their invaluable support and encouragement.

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Table of Contents

<i>Hindi Reading Comprehension: Do Large Language Models Exhibit Semantic Understanding?</i> Daisy Monika Lal, Paul Rayson and Mo El-Haj	1
<i>Machine Translation and Transliteration for Indo-Aryan Languages: A Systematic Review</i> Sandun Sameera Perera and Deshan Koshala Sumanathilaka	11
<i>BERTopic for Topic Modeling of Hindi Short Texts: A Comparative Study</i> Atharva Mutsaddi, Anvi Jamkhande, Aryan Shirish Thakre and Yashodhara Haribhakta	22
<i>Evaluating Structural and Linguistic Quality in Urdu DRS Parsing and Generation through Bidirectional Evaluation</i> Muhammad Saad Amin, Luca Anselma and Alessandro Mazzei	33
<i>Studying the Effect of Hindi Tokenizer Performance on Downstream Tasks</i> Rashi Goel and Fatiha Sadat	44
<i>Adapting Multilingual LLMs to Low-Resource Languages using Continued Pre-training and Synthetic Corpus: A Case Study for Hindi LLMs</i> Raviraj Joshi, Kanishk Singla, Anusha Kamath, Raunak Kalani, Rakesh Paul, Utkarsh Vaidya, Sanjay Singh Chauhan, Niranjana Wartikar and Eileen Long	50
<i>OVQA: A Dataset for Visual Question Answering and Multimodal Research in Odia Language</i> Shantipriya Parida, Shashikanta Sahoo, Sambit Sekhar, Kalyanamalini Sahoo, Ketan Kotwal, Sonal Khosla, Satya Ranjan Dash, Aneesh Bose, Guneet Singh Kohli, Smruti Smita Lenka and Ondřej Bojar	58
<i>Advancing Multilingual Speaker Identification and Verification for Indo-Aryan and Dravidian Languages</i> Braveenan Sritharan and Uthayasanker Thayasivam	67
<i>Sentiment Analysis of Sinhala News Comments Using Transformers</i> Isuru Bandaranayake and Hakim Usoof	74
<i>ExMute: A Context-Enriched Multimodal Dataset for Hateful Memes</i> Riddhiman Swanan Debnath, Nahian Beente Firuj, Abdul Wadud Shakib, Sadia Sultana and Md Saiful Islam	83
<i>Studying the capabilities of Large Language Models in solving Combinatorics Problems posed in Hindi</i> Yash Kumar and Subhjit Roy	90
<i>From Scarcity to Capability: Empowering Fake News Detection in Low-Resource Languages with LLMs</i> Hrithik Majumdar Shibu, Shrestha Datta, Md. Sumon Miah, Nasrullah Sami, Mahruba Sharmin Chowdhury and Md Saiful Islam	100
<i>Enhancing Participatory Development Research in South Asia through LLM Agents System: An Empirically-Grounded Methodological Initiative from Field Evidence in Sri Lanka</i> Xinjie Zhao, Hao Wang, Shyaman Maduranga Sriwarnasinghe, Jiacheng Tang, Shiyun Wang, Sayaka Sugiyama and So Morikawa	108
<i>Identifying Aggression and Offensive Language in Code-Mixed Tweets: A Multi-Task Transfer Learning Approach</i> Bharath Kancharla, Prabhjot Singh, Lohith Bhagavan Kancharla, Yashita Chama and Raksha Sharma	122

<i>Team IndiDataMiner at IndoNLP 2025: Hindi Back Transliteration - Roman to Devanagari using LLaMa</i> Saurabh Kumar, Dhruvkumar Babubhai Kakadiya and Sanasam Ranbir Singh	129
<i>IndoNLP 2025 Shared Task: Romanized Sinhala to Sinhala Reverse Transliteration Using BERT</i> Sandun Sameera Perera, Lahiru Prabhath Jayakodi, Deshan Koshala Sumanathilaka and Isuri Anuradha.....	135
<i>Crossing Language Boundaries: Evaluation of Large Language Models on Urdu-English Question Answering</i> Samreen kazi, Maria Rahim and Shakeel Ahmed Khoja	141
<i>Investigating the Effect of Backtranslation for Indic Languages</i> Sudhansu Bala Das, Samujjal Choudhury, Dr Tapas Kumar Mishra and Dr Bidyut Kr Patra ...	152
<i>Sinhala Transliteration: A Comparative Analysis Between Rule-based and Seq2Seq Approaches</i> Widanalage Mario Yomal De Mel, Kasun Imesha Wickramasinghe, Nisansa de Silva and Surangika Dayani Ranathunga	166
<i>Romanized to Native Malayalam Script Transliteration Using an Encoder-Decoder Framework</i> Bajiyo Baiju, Kavya Manohar, Leena G. Pillai and Elizabeth Sherly	174

Conference Program

8.45–9.00 **Opening Remark**

9.00–10.00 **Keynote Speech**

Theme: Language Processing and Evaluation

10.00–10.15 *Crossing Language Boundaries: Evaluation of Large Language Models on Urdu-English Question Answering*
Samreen kazi, Maria Rahim and Shakeel Ahmed Khoja

10.15–10.30 *Hindi Reading Comprehension: Do Large Language Models Exhibit Semantic Understanding?*
Daisy Monika Lal, Paul Rayson and Mo El-Haj

Coffee Break

11.00–11.15 *Machine Translation and Transliteration for Indo-Aryan Languages: A Systematic Review*
Sandun Sameera Perera and Deshan Koshala Sumanathilaka

11.15–11.30 *Investigating the Effect of Backtranslation for Indic Languages*
Sudhansu Bala Das, Samujjal Choudhury, Dr Tapas Kumar Mishra and Dr Bidyut Kr Patra

11.30–11.45 *BERTopic for Topic Modeling of Hindi Short Texts: A Comparative Study*
Atharva Mutsaddi, Anvi Jamkhande, Aryan Shirish Thakre and Yashodhara Haribhakta

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12.00–12.15 *Studying the Effect of Hindi Tokenizer Performance on Downstream Tasks*
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Raviraj Joshi, Kanishk Singla, Anusha Kamath, Raunak Kalani, Rakesh Paul, Utkarsh Vaidya, Sanjay Singh Chauhan, Niranjan Wartikar and Eileen Long

- 12.30–12.45 *OVQA: A Dataset for Visual Question Answering and Multimodal Research in Odia Language*
Shantipriya Parida, Shashikanta Sahoo, Sambit Sekhar, Kalyanamalini Sahoo, Ketan Kotwal, Sonal Khosla, Satya Ranjan Dash, Aneesh Bose, Guneet Singh Kohli, Smruti Smita Lenka and Ondřej Bojar
- 12.45–13.00 *Advancing Multilingual Speaker Identification and Verification for Indo-Aryan and Dravidian Languages*
Braveenan Sritharan and Uthayasanker Thayasivam
- 13.00–14.00 Lunch Break**
- Theme: Applications and Societal Impact: Applying NLP to Real-World Problems and Societal Challenges**
- 14.00–14.15 *Sentiment Analysis of Sinhala News Comments Using Transformers*
Isuru Bandaranayake and Hakim Usoof
- 14.15–14.30 *ExMute: A Context-Enriched Multimodal Dataset for Hateful Memes*
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- 15.00–15.15 *Enhancing Participatory Development Research in South Asia through LLM Agents System: An Empirically-Grounded Methodological Initiative from Field Evidence in Sri Lanka*
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15.30–16.00 Coffee Break

Shared Task Discussion

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Final Remark

