

XLLM 2025

**The 1st Joint Workshop on Large Language Models and  
Structure Modeling**

**Proceedings of the Workshop**

August 1, 2025

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# Introduction

Language structure modeling has long been a crucial subfield of natural language processing (NLP) that entails understanding the underlying semantic or syntactic structure of language and texts. Language structures can broadly range from low-level morphological/syntactic types (e.g., dependency structures and phrasal constituent structures) to high-level discourse/semantic structures (e.g., semantic parsing, semantic role labeling, abstract meaning representation), and can even extend to more NLP applications, multi-lingual and multi-modal scenarios in a broader sense, such as information extraction and structured sentiment analysis, etc. In previous days, modeling, inferring, and learning about linguistic structures constituted an indispensable component in many NLP systems and were the key focus of a large proportion of NLP research. The methodologies and paradigms concerning language structure modeling have always changed dramatically since each deep learning revolution started around a decade ago. In the last two to three years, Large Language Models (LLMs) have emerged, demonstrating unprecedented language understanding and generalization capabilities in effectively addressing a wide range of tasks. This raises a critical question: Is NLP structure modeling still worth exploring in the LLM era? Do the methods and tasks before LLMs still hold value?

On the one hand, we wonder whether previous NLP structure modeling tasks, such as those concerning morphological/syntactic/semantic/discourse structures and high-level structure-aware applications, can achieve even stronger task performance with the powerful capabilities of LLMs. On the other hand, we are also considering whether it is still necessary to model the underlying structures of language, given that large-scale pretraining on the surface form alone can endow LLMs with extraordinarily powerful language capabilities. In particular, can language structure modeling be beneficial for improving or understanding LLMs? Thus, this 1st Joint Workshop on Large Language Models and Structure Modeling (XLLM 2025) at ACL 2025 aims to encourage discussions and highlight methods for language structure modeling in the era of LLMs. We will explore two main directions: LLM for Structure Modeling (LLM4X) and Structure Modeling for LLM (X4LLM).

In the interest of having a broad conversation, inclusive of different disciplinary norms, we invited submissions of different kinds. Authors were able to choose between: (1) archival papers which will be published in the XLLM proceedings as well as presented during the workshop, and (2) non-archival papers which are not published in the proceedings but are given a presentation slot during the workshop. Archival papers may be long (up to 9 pages) or short (up to 5 pages), and went through mutually anonymous peer review by our program committee members or were already reviewed through ACL Rolling Review (ARR). Non-archival papers include extended abstracts which were also subjected to mutually anonymous peer review by our program committee. In addition to paper contributions, we are organizing open challenges on structure-related NLP tasks, including:

- Task-I: Dialogue-Level Dependency Parsing (DiaDP)
- Task-II: Speech Event Extraction (SpeechEE)
- Task-III: LLM for Structural Reasoning (LLM-SR)
- Task-IV: Document-level Information Extraction (DocIE)

For top-5 teams, we invite them to write technical papers that are also included into XLLM proceedings, where the champion team will give oral presentation.

After the hard process of reviewing all submissions, the program committee chose i) 21 archival regular papers, including 6 oral and 25 poster presentations, ii) 11 archival challenge papers, including 4 oral and 7 poster presentations, and iii) 12 non-archival papers. Among all the submissions, we received 4 submissions through ARR. The program committee is excited about the quality of the accepted papers and expects lively discussion and exchange at the conference. For all the winning participants of our open challenges, we issued certificates for their performance, and for parts of the tasks, we also awarded cash prizes.

The XLLM workshop invited 4 keynote speakers: Kyunghyun Cho, Elsa Olivetti, Marinka Zitnik, Huan Sun, and Lei Li. Additionally, a poster session, invited oral talks, and a panel discussion on future research directions will be held.

As a final note, we would like to thank the authors, invited speakers, committee members, and our scientific advisory board for helping make this workshop happen. We also wish to express our sincere gratitude to ACL for hosting our conference and for arranging the logistics and infrastructure that allow us to hold XLLM 2024 as a hybrid conference. Welcome to XLLM 2024, welcome to Vienna, Austria!

- Organizing Committee of XLLM

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## Program

### Friday, August 1, 2025

09:00 - 08:50	<i>Opening Remarks</i>
10:30 - 09:00	<i>Keynote Session-1</i>
11:00 - 10:30	<i>Coffee break</i>
12:00 - 11:00	<i>Oral Session-1</i>
12:30 - 12:00	<i>Poster Session-1</i>
14:00 - 12:30	<i>Lunch Break</i>
15:30 - 14:00	<i>Keynote Session-2</i>
16:00 - 15:30	<i>Coffee break</i>
16:45 - 16:00	<i>Oral Session-2</i>
17:00 - 16:45	<i>Closing Remarks</i>
17:30 - 17:00	<i>Poster Session-2</i>