DeeLIO 2022

# Deep Learning Inside Out (DeeLIO 2022): The 3rd Workshop on Knowledge Extraction and Integration for Deep Learning Architectures

## Proceedings of the Workshop

May 27, 2022

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Association for Computational Linguistics (ACL)
209 N. Eighth Street
Stroudsburg, PA 18360
USA
Tel: +1-570-476-8006
Fax: +1-570-476-0860
acl@aclweb.org

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# Preface

Welcome to the Third Workshop on Knowledge Extraction and Integration for Deep Learning Architectures! Following the previous two successful editions of the workshop at EMNLP 2020 and NAACL-HLT 2021, DeeLIO 2022 continues to bring together the knowledge interpretation, extraction and integration lines of research in deep learning, and to cover the area in between. Now in its third year, DeeLIO is an established forum for the exchange of ideas on these topics, fostering collaboration within these research fields.

The year 2022 has introduced the first hybrid edition of the workshop after two fully virtual events. Following the changes in *ACL Conference organization, DeeLIO 2022 has undergone some other core changes as well, including the full transfer of the reviewing process to the OpenReview platform, and the opportunity to commit papers previously evaluated through the ACL Rolling Review process.

This volume includes the 10 papers presented at the workshop as posters. We received a batch of high-quality research papers, and decided to finally accept 7 out of 14 fully reviewed submissions, and 3 out of 7 committed submissions. DeeLIO 2022 was co-located with the 60th Annual Meeting of the Association for Computational Linguistics (ACL 2022) and was held on May 27, 2022 as a hybrid workshop.

It is again great to see that the accepted papers cover both thematic axes of DeeLIO: the extraction of linguistic knowledge from deep neural models as well as the integration of knowledge from external resources into the models, and all this for different languages and applications. All papers were presented as posters during on-site and virtual poster sessions with live interactions and Q&A sessions.

We take this opportunity to thank the DeeLIO program committee for their help and thorough reviews. We also thank the authors who presented their work at DeeLIO, and the workshop participants for the valuable feedback and discussions. Encouraged by the great research presented at the workshop and all the positive feedback received, we hope to continue with the DeeLIO organization in the years to come. Finally, we are deeply honored to have three excellent talks from our invited speakers Yejin Choi, Allyson Ettinger, and Tal Linzen.

*The DeeLIO workshop organizers*,

Eneko Agirre, Marianna Apidianaki, and Ivan Vulić

# Organizing Committee

### Workshop Chairs

Eneko Agirre, University of the Basque Country
Marianna Apidianaki, University of Pennsylvania
Ivan Vulić, University of Cambridge & PolyAI

### Invited Speakers

Yejin Choi, AI2 and University of Washington
Allyson Ettinger, University of Chicago
Tal Linzen, New York University

# Program Committee

**Program Committee**

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**Friday, May 27, 2022**

09:20 - 09:30 *Opening Remarks*

09:30 - 10:30 *Invited Talk 1: Tal Linzen*

10:30 - 11:00 *Coffee Break*

11:00 - 12:30 *On-Site Poster Session*

*Cross-lingual Semantic Role Labelling with the ValPaL Database Knowledge*
Chinmay Choudhary and Colm O'Riordan

*How Do Transformer-Architecture Models Address Polysemy of Korean Adverbial Postpositions?*
Seongmin Mun and Guillaume Desagulier

*Trans-KBLSTM: An External Knowledge Enhanced Transformer BiLSTM Model for Tabular Reasoning*
Yerram Varun, Aayush Sharma and Vivek Gupta

*On Masked Language Models for Contextual Link Prediction*
Angus Brayne, Maciej Wiatrak and Dane Corneil

12:30 - 14:00 *Lunch*

14:00 - 15:00 *Virtual Poster Session*

*Cross-lingual Semantic Role Labelling with the ValPaL Database Knowledge*
Chinmay Choudhary and Colm O'Riordan

*How Do Transformer-Architecture Models Address Polysemy of Korean Adverbial Postpositions?*
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**Friday, May 27, 2022 (continued)**

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Jiachang Liu, Dinghan Shen, Yizhe Zhang, Bill Dolan, Lawrence Carin and Weizhu Chen

15:00 - 15:30 *Coffee Break*

15:30 - 16:30 *Invited Talk 2: Yejin Choi*

16:30 - 16:40 *Short Break*

16:40 - 17:40 *Invited Talk 3: Allyson Ettinger*

17:40 - 17:50 *Closing Remarks*