

Proceedings of the 3rd Workshop on Deep Learning for Knowledge Graphs co-located with ESWC 2020

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Preface

Over the past years there has been a rapid growth in the use and importance of Knowledge Graphs along with its applications in many other important tasks. Knowledge Graphs are large networks of real-world entities described in terms of their semantic types and their relationships to each other. Deep Learning methods have also become an important area of research. They are a class of machine learning algorithms that use a cascade of multiple layers of nonlinear processing units for feature extraction and transformation trying to simulate the way the human brain works. Recently, many disparate efforts have tried to use this type of algorithms within the Semantic Web and especially for Knowledge Graphs. Therefore, it has become critical that the communities related to Deep Learning, Knowledge Graphs and Natural Language Processing join their forces in order to develop more effective algorithms and applications. This workshop aims to reinforce the relationships between these communities and intends to be at the center of shared works around topics such as Deep Learning, Knowledge Graphs, Natural Language Processing, Computational Linguistics, Big Data, and so on.

Given these premises, the workshop “Deep Learning for Knowledge Graphs” (DL4KG) aims at providing a meeting forum for stimulating discussions among the authors as well as both the communities related to Deep Learning and Knowledge Graphs. Moreover, it also promotes discussions from research as well as industry point of view. This platform enabled many interesting discussions as well as served as a platform for networking informally⁶. More in detail, seven papers have been accepted and discussed within the workshop by authors from different international institutions. They covered topics such as Knowledge Graph embeddings, entity summarization, entity type prediction, semantic entity enrichment. We had as invited speaker Prof. Michalis Vazirgiannis who discussed message passing attention networks for document understanding. We really thank him for his great talk. We also thank the program committee for their time and work for reviewing the submitted papers. Although the workshop was held remotely due to the COVID-19 pandemic, it has been successful with around 30 participants from all around the world. In the workshop website it is possible to see some screenshot reflecting some moment of the workshop.

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⁶ https://alammehwish.github.io/dl4kg_eswc_2020/

Contents

Affinity Dependent Negative Sampling for Knowledge Graph Embeddings, *Mirza Mohtashim Alam, Hajira Jabeen, Mehdi Ali, Karishma Mohiuddin and Jens Lehmann*

Probing a Semantic Dependency Parser for Translational Relation Embeddings, *Riley Capshaw, Marco Kuhlmann and Eva Blomqvist*

Towards Exploiting Implicit Human Feedback for Improving RDF2vec Embeddings, *Ahmad Al Taweel and Heiko Paulheim*

Semantic Entity Enrichment by leveraging Multi-lingual Descriptions for Link Prediction, *Genet Asefa Gesese, Mehwish Alam and Harald Sack*

DeepLENS: Deep Learning for Entity Summarization, *Mirza Mohtashim Alam, Hajira Jabeen, Mehdi Ali, Karishma Mohiuddin and Jens Lehmann*

Entity Type Prediction in Knowledge Graphs using Embeddings, *Russa Biswas, Radina Sofronova, Mehwish Alam and Harald Sack*

Conditional Constraints for Knowledge Graph Embeddings, *Michael Weyns, Pieter Bonte, Bram Steenwinckel, Filip De Turck and Femke Ongenaë*.