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“ Graph’s not dead: from unsupervised induction of linguistic structures from text towards applications in deep learning ”

Dr. Alexander Panchenko

SEMINAR ABSTRACT:

In this talk, you will learn how to induce linguistic structures from text in an unsupervised manner using distributional models and graph clustering and represent them in the form usable by deep learning models. We will start with a discussion of methods for induction of sparse and dense word sense representations. Each induced sense is represented by a vector, but also a set of hypernyms, images, and usage examples, derived in an unsupervised and knowledge-free manner, which ensure their interpretability. We showcase the usage of the induced representations for the tasks of word sense disambiguation and enrichment of lexical resources, such as WordNet. Next, we will discuss induction of semantic frames from text. Finally, the talk will end with a discussion of methods for vectorization of linguistic graphs via learning of graph embeddings, which can be used as input in modern deep learning architectures.

SPEAKER INTRODUCTION:

Dr.Panchenko is a Postdoctoral Researcher in the Language Technology Group at the University of Hamburg, Germany. His background is almost a decade of research and developments in the field of NLP. He worked on a range of problems and tasks, such as semantic relatedness, word sense disambiguation, and induction, sentiment analysis, gender detection, taxonomy induction, etc. Prior to the appointment in Hamburg, Alexander was a Postdoctoral Researcher at TU Darmstadt. He received his PhD in Computational Linguistics from the Universite catholique de Louvain, Belgium. Alexander is interested in representation learning, distributional semantics and word sense induction and disambiguation. He has (co-) authored more than 40 peer-reviewed research publications, including papers in top-tier conference proceedings, such as ACL, EMNLP, EACL, and ECIR. He received (with co-authors) the best paper award at the `Representation Learning for NLP' (RepL4NLP) workshop at ACL 2016. He co-organised two shared tasks on semantic relatedness and word sense induction evaluation for the Russian language (RUSSE'15 and RUSSE'18). He is a founding co-editor of a data science conference on Analysis of Social Networks, Images, and Texts (AIST) with the proceedings published in Springer LNCS series.