



Prof. R. Wattenhofer

Expanding Natural Language Processing in Machines with Brain Activities

The connection between how the brain operates and how neural networks perform computations is an active topic of discussion. In the last few years, a whole branch of research has been devoted to study this connection and to find ways of bridging the existing gap. In this project, we build on the most recent research in Natural Language Processing and Cognitive sciences to approach the problem from a new angle.

In particular, this Master Thesis explores the link between natural language processing in the brain and in computers. To this end, datasets comprising fMRI scans of people reading natural text are used to learn a mapping between brain scans and language embeddings. Learning such mapping is a challenging task that when completed, provides the possibility of extending artificial neural networks for language processing with brain information. We will study different approaches to extend language processing models as well as different applications, such as fMRI decoding or enriched text generation.



Requirements: Creativity and programming skills are an advantage. The student(s) should be able to work independently!

Interested? Please contact us for more details!

Contacts

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