

Postdoctoral position in computer vision and language (Paris, France)

The CEA LIST and CNRS LIMSI (both located at the Paris-Saclay University in France) are seeking a postdoctoral researcher to develop deep learning approaches in computer vision and/or natural language processing. The CEA and CNRS are two major research centers in France, both of them ranked in the top-10 World's Most Innovative Research Institutions by Reuters in 2016 and 2017.

In the domain of Information Extraction, the **Entity Disambiguation task** (or Entity Linking) consists in connecting an entity extracted from a text to known entities in a knowledge base, which is useful for further extraction tasks (relation extraction or event detection, for instance) or to provide a unique normalization of the entities in an Information Retrieval context. On nowadays, actual Entity Linking, with regard to millions of instances in the knowledge base, is only applied to textual content. The proposed post-doc consists in exploring the usage of visual information to improve the disambiguation. It thus relates to both **computer vision and natural language processing** and the candidate will work with researchers of both domains, relying on **machine learning and deep learning** methods.

Several tracks of research can be considered. A classical Entity Linking system is made of three main modules. First, it analyzes an input (query) to identify an "entity mention" that needs to be linked to the knowledge base. Second, for each mention, the system generates several candidate entities from the knowledge base and finally, it selects the best entity among the candidates. The proposed position mainly deals with the second and the third modules. In practice, several possible contributions can be considered, including the use of textual/visual joint space made with deep neural networks.

An ideal candidate should possess (or be near completion of) a doctoral degree in computer vision, machine learning or natural language processing together with a solid mathematical background, good programming skills and a strong academic publication record. The starting date is second semester 2018 (in June at the latest). The contract is for a 1-year period with a possible extension.

Please apply by sending by mail a CV, a focused motivation letter and one to three recommendation letters to Hervé Le Borgne (herve.le-borgne@cea.fr) and Brigitte Grau (bg@limsi.fr).

Laboratory website : <http://www.kalisteo.eu/en/index.htm>

HLB : <https://sites.google.com/site/hleborgne/>

BG : <https://perso.limsi.fr/bg/PageBrigitteGrau-en.html>