

## PhD Researcher Position in Deep Learning for Big Heterogeneous Data

We nowadays experience the era of data deluge: massive amounts of information are constantly produced – and can be harvested – from various online sources, ranging from wireless sensor devices in smart cities to public open datasets and social media. It has therefore become a scientific and industrial need to extract important knowledge from a corpus of online heterogeneous data, including images and text on the internet as well as open or proprietary data (smart cities' data, financial data, environmental data).

The big data team at the Department of Electronics and Informatics at Vrije Universiteit Brussel specializes on signal processing and machine learning algorithms as well as distributed systems, which efficiently mine, cross-correlate and analyze heterogeneous and multimodal data sources.

We offer a PhD research position that will investigate novel approaches to representing and extracting inference from high-dimensional and heterogeneous data. The emphasis will be on smart-cities applications; specifically applications related to monitoring and predicting the volume of traffic and the amount of air-pollution in smart cities.

The main responsibilities of the successful candidate are:

- Contributing to the design and development of novel scientific algorithms and systems;
- Contributing to the preparation of scientific publications and patents.

We are especially interested in candidates with the following profile:

- A Masters degree in Electrical Engineering, Computer Science, Mathematics;
- Strong mathematical skills and strong programming skills in structured and script-based programming;
- A good background in statistical learning, machine learning, neural networks, deep learning, sparse coding and representation learning is a key asset;
- Knowledge of signal processing, optimization theory and information theory is a plus;
- Experience with state-of-the-art machine learning tools (Pylearn, Tensorflow, Theano, Pandas, Caffe);
- Fluency in English and very good writing skills.

The position is supported by a full PhD scholarship plus benefits (laptop, public transport subscription). The successful candidate will work in an international scientific environment driven by excellence in research and industrial valorization. The position provides a great opportunity to work with experienced researchers in the field of data analytics and to collaborate with an international network of top-tier academic and industrial partners.

Interested candidates can e-mail: (i) a detailed curriculum vitae; (ii) a motivation letter; (iii) BSc and MSc transcripts of grades and the MSc thesis, and (iv) two references to the following contact person:

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