**PhD Researcher Position in Deep Learning, Sparse Coding and Distributed Inference for the Processing of Multimodal Image Data**

It has become common practice to acquire information about the same phenomenon with a multitude of different sensors: in medical diagnostics, various imaging modalities are often combined (e.g., X-ray, CT, and magnetic resonance images); in remote sensing, information from hyperspectral images with optical and radar images is fused; and in digital painting analysis, optical images are commonly accompanied by radiographs, infrared and multispectral data.

In the context of a Fonds Wetenschappelijk Onderzoek (FWO) funded project, we aim at developing new data representations and inference techniques for the processing and analysis of heterogeneous image data. Case studies comprise digital painting analysis, remote sensing, and non-destructive testing. All share common practices in terms of multimodal data acquisition and similar research challenges in terms of content classification and separation, albeit each with its own specificities.

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 data sources. In this project the team will collaborate closely with researchers from the group of Statistical Image Modeling at Ghent University.

This PhD Researcher opening is addressing candidates interested in data sensing, representation, and inference extraction. Key responsibilities are:

- Contributing to the design and development of novel scientific algorithms and systems;
- Contributing to the preparation of scientific publications and patents;
- Guidance and supervision of master thesis researchers.

We are especially interested in candidates with the following profile:

- A Masters degree in Electrical Engineering, Computer Science, Mathematics, Physics;
- Experience with state-of-the-art tools (Python, Matlab, C++);
- Fluency in English and very good writing skills;
- Interest in statistical data analysis, machine learning, deep learning, or dimensionality reduction. Experience with high-dimensional image data is a plus.

The position is fully supported by a competitive salary plus benefits (laptop, public transport subscription). The successful candidate will work in an international scientific environment driven by excellence in research and industrial valorisation. The position provides a great opportunity to work with experienced researchers in the field of data analysis 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 persons:

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