PhD Position

Ecole/Institution/Société:
KU Leuven, **Belgium / Leuven**

Discipline:
Signal Processing

Type d'emploi::
Full-time

Date de publication:
2022-03-01

Personne à contacter:
If you wish to apply for this position, please specify that you saw it on AKATECH.tech

PhD Position: Signal Processing for EEG-based Brain-Computer Interfaces

The work will be performed within the research division STADIUS (Prof. A. Bertrand) in collaboration with the division PSI (Prof. T. Tuytelaars), both at the Department of Electrical Engineering (ESAT) at KU Leuven, Europe's most innovative university (according to Reuters). STADIUS's major research objective is to contribute to the development of improved digital (control and signal processing) systems that incorporate advanced mathematical modeling techniques as a crucial new ingredient. PSI performs demand-driven research in the field of image and audio processing.

Project

This job opening covers a PhD position (4 years) at the STADIUS group of the Department of Electrical Engineering (ESAT) of KU Leuven (Belgium) in the frame of a project on 'natural' brain-computer interfaces (BCI) where we aim to identify the temporal encoding of realistic video footage in electroencephalography (EEG) recordings.

Profile

You have a master's degree in engineering with a background in any of the following domains: electrical or mathematical engineering, biomedical engineering, computer science, information technology, artificial intelligence, signal processing (or a similar degree with an equivalent academic level).

- You have an interest in designing EEG-BCI experiments (expected for about 20% of the PHD)
- You have a solid mathematically-oriented background
- You have a genuine interest in signal processing and/or machine learning methodology and algorithms
- You obtained good grades in courses related to the topics relevant to this PhD position
- You are able to do independent research (demonstrated by, e.g., excellent grades on a MSc thesis, etc.)
- You have a critical mindset
- You have an excellent proficiency in the English language (both speaking and writing)

Additional research/educational experience in any of the following topics is a plus:

- Component analysis theory and application (PCA, ICA, CCA)
- Multi-channel signal processing and spatial filtering

- Sensor array processing
- Deep learning

Offer

- A funded PhD scholarship
- An exciting interdisciplinary research environment
- A KU Leuven affiliation, Europe's most innovative university and 7th in the world (Reuters)
- The possibility to take part in international conferences and collaborations
- A competitive salary

Interested?

The application deadline is 31 March 2022, but earlier applications are encouraged and will be considered as soon as they are received. The position can be closed earlier in case a suitable candidate has been found.

Interested applicants should submit:

- a motivation letter with a statement of skills and research interests
- a curriculum vitae
- the names and contact information of 2 references

!!! Important note: motivation letters are free format except for 2 required paragraphs:

- Reason(s) why I am interested in this particular position: [write reasons here]
- Facts or examples that demonstrate that I satisfy the listed requirements: [write reasons here]

For more information, contact:

Prof. Alexander Bertrand: alexander.bertrand@esat.kuleuven.be

KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be.

Job details

Title: PhD Position: Signal Processing for EEG-based Brain-Computer Interfaces

Employer: KU Leuven

Location: Oude Markt 13 Leuven, Belgium

Job type: PhD

Field: Applied Mathematics, Artificial Intelligence, Biomedical Engineering, Computational Engineering, Computational Mathematics

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