



Applications are invited for a PhD fellowship/scholarship at Graduate School of Science and Technology (GSST), Aarhus University, Denmark, within the Engineering programme.

Title: Deep learning for joint processing of audio and EEG signals

Research area and project description:

The aim of the project is to develop algorithms for enhancing hearing aid performance through integration with ear-EEG. The project will investigate deep neural networks for joint processing of brain and audio signals.

The research will be based in the Center for Ear-EEG and the Bioelectrical Instrumentation and Signal Processing research group, but there will also be collaboration with industrial partners and international academic research groups. The Bioelectrical Instrumentation and Signal Processing group has been one of the pioneers of the ear-EEG method. The group consists currently of 3 postdoctoral researchers, 1 PhD student, and on average 3 M.Sc. thesis students.

Supervisor-team: Main supervisor: Preben Kidmose, co-supervisors: Kaare Mikkelsen (Aarhus University) and Huy Phan (Queen Mary University of London, UK).

Qualifications:

The ideal candidate will have an M.Sc. degree in machine learning, signal analysis or a similar topic. Experience with electrophysiological signals is an advantage but not required.

Application procedures

As a part of the recruitment process, the applicant may be invited for a three month screening grant visit, funded by GSST, before the actual enrollment as PhD student

(see <https://phd.scitech.au.dk/for-supervisors/financing-grants/internationalisation-grants/>).

The screening grant visit is expected to start March 2020 or as soon as possible thereafter and enrollment as PhD student from August 2020.

Documentation of language skills:

The English language requirement at GSST is comparable to an “English B level” in the Danish upper secondary school (“gymnasium”).

English language qualifications comparable to an “English B level” are documented by one of the following tests:

- TOEFL test, minimum score: 560 (paper-based test) or 83 (internet-based test). The paper-based test must have a “total score”. From the August 2019 call, GSST will no longer accept the paper-based test.
Aarhus University does not accept the TOEFL ITP test.
- IELTS (academic) test, minimum average score: 6.5 points
- Cambridge English Language Assessment:
Cambridge Certificate of Proficiency (CPE)
Cambridge English: Certificate of Advanced English with grade A,B or C (CAE)
Cambridge English: First Certificate with grade A (FCE)

The following applicants are exempted from documenting their English qualifications/taking a test:

- Applicants with citizenship from the following countries: Australia, Canada, Ireland, New Zealand, the United Kingdom, the United States, or one of the Nordic countries (Denmark, Finland, Iceland, Norway or Sweden).
- Applicants with a Bachelor’s or Master’s programme completed in Australia, Canada, Ireland, New Zealand, the United Kingdom, or the United States.
- Applicants with a Bachelor’s or Master’s programme completed at a Danish university for which the requirement was English B level at the time of admission.

How to apply:

All information in the application must be in English. Applications must include (pdf-files only, max. 10 MB, no zip):

- Curriculum vitae,
- Motivation (max. 1 page)
- Transcripts, grade point averages (weighted and unweighted), and diploma(s) for both Bachelor’s and Master’s degree
- Project description (limited to maximum 1 page). This document should describe your ideas and research plans for this specific project.
- Documentation of language skills if required.

In addition, a single reference letter can also be attached.

The application must be send by e-mail to pki@eng.au.dk. The e-mail must have subject “PhD application, Deep learning”. Application deadline is 1st of February 2020.

The project is mainly funded through Center for Ear-EEG (<http://eng.au.dk/ear-eeq>). However, the project will only be initiated if final funding from GSST is secured.

Place of employment and place of work: Department of Engineering, Finlandsgade 22, DK-8200 Aarhus N, Denmark.