Doctoral Candidate Position in Sensor Fusion for Motion Tracking and Biomedical Signal Processing

Sensor informatics and medical technology (Sensori-informatiikka ja lääketieteellinen tekniiikka) research group focuses to sensor informatics, adaptive signal processing, and data fusion systems especially for medical applications. Other applications include smartphone sensor fusion, robotics, positioning systems, target tracking, and many other indirectly measured time-varying systems. In medical technology, the aim is to measure the human health and body function using different kinds of biosensors. These biosensors include brain-imaging systems such as MEG, EEG, and fMRI; but also heart sensors (e.g., ECG), muscle activity sensors (e.g., EMG), and body movement sensors (e.g., accelerometers, microphones, or radar).

Doctoral Candidate Position in Sensor Fusion for Motion Tracking and Biomedical Signal Processing

We are looking for a doctoral candidate to the field of sensor fusion for motion tracking and biomedical signal processing at the Sensor Informatics and Medical Technology group (http://eea.aalto.fi/en/research/sensori-informatiikka/) of Department of Electrical Engineering and Automation (EEA), Aalto University. The work will be done under guidance of Prof. Simo Särkkä.

The successful candidate will develop, implement, and validate sensor models and sensor fusion algorithms such as Kalman filters, particle filters, and machine learning methods for applications such as activity detection, motion tracking, and biomedical signal processing. In particular, the candidate will contribute to the currently ongoing research within electrocardiography, motion detection, indoor positioning, and brain imaging. The work will include both theoretical research but also a strong focus on practical evaluation of the developed methods.

An eligible applicant has a M.Sc. Degree (or equivalent) in computer science, electrical engineering, mathematics, or related field. We expect skills and knowledge in at least one of the following fields: statistical signal processing, sensor systems, machine learning, biomedical imaging or measurements. Programming skills in languages such as Matlab, Java, Python, or C/C++ are required. Furthermore, a benefit is prior knowledge in embedded systems, biomedical applications, and smartphone programming. Fluency in English both written and spoken is a requirement.

The position is fixed-term and filled initially for 1 year with an option for extension until the end of 4-year PhD studies. The salary is determined according to the salary system of Aalto University.

How to apply

To apply, submit the documents indicated below using the on-line recruitment system link http://www.aalto.fi/en/about/careers/jobs/view/1363/, by July 31, 2017. Application materials should be submitted in a single pdf file and in English.
Your application should include the following attachments: motivation letter, CV, a copy of study records, and names and contact details of 2 references. The application materials will not be returned.

**Additional information**

For additional information, please contact Professor Simo Särkkä (https://users.aalto.fi/~ssarkka/) email: simo.sarkka@aalto.fi or in recruitment process related questions HR Coordinator Jaana Hänninen, jaana.hanninen@aalto.fi.

Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and to consider candidates who have not submitted applications during the application period.

Aalto University is a community of bold thinkers where science and art meet technology and business. We are committed to identifying and solving grand societal challenges and building an innovative future. Aalto University has six schools with nearly 20 000 students and more than 400 professors. Our campuses are located in Espoo and Helsinki, Finland.