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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Postdoctoral Research Position in Statistical Signal Processing - “Energy-efficient distributed learning and information transfer in IoT”

The [Faculty of Information Technology and Electrical Engineering](#), at the Norwegian University of Science and Technology (NTNU) has one Postdoctoral Research vacancy at the [Department of Electronic Systems \(IES\)](#). The postdoctoral position is for two (2) years.

Information about the department

Currently IES has approximately 165 full-time employees spread across 45 professors/assoc professors, 70 PhD, 25 research/Post.Doc and 25 engineering/administration. IES has the principal responsibility for education and research in electronics at NTNU. IES research portfolio comprises the areas of statistical signal processing, wireless communication, marine acoustics/sub-sea communications, multimedia and speech technology, micro- and nano-technology, sensors, and medical technology.

Project description

In Internet-of-things (IoT), as sensing and estimation becomes more distributed, sensors/estimators will need to communicate with each other and other entities in the network to obtain an accurate picture of the system being observed. In a distributed IoT/wireless sensor network, the sensor nodes share their observations with the neighboring nodes and cooperate to enhance the accuracy of the inference. As the number of sensors increases, the amount of data that will be stored, processed and communicated increases dramatically so that system throughput and latency will not be adequate to ensure reliable and secure operation. In this project we are particularly interested in the development of new methods and algorithms that enable frugal usage of energy by the sensors, that can effectively convert the data collected by myriads of sensors into actionable intelligence, and that are robust and resilient to malfunctioning sensors or malicious disturbance.

The candidate will conduct research together with personnel in the group of Prof. Stefan Werner, as well as researchers connected to the NTNU Internet-of-things lab. Preference will be given to candidates who can work independently and have a strong potential to build competence and guide students within the following research areas:

1. Decentralized statistical learning for energy-efficient sensor networks in IoT
2. Graph signal processing in IoT
3. Distributed optimization with applications to IoT/wireless sensor networks

We search for candidates with keen interests in these interdisciplinary tasks, and those with the best qualifications will be invited for an interview.

Qualifications

The candidate is expected to be able to work independently, have a solid mathematical background and a PhD in statistical signal processing, applied mathematics, statistics or machine learning, wireless sensor networks, electrical engineering, or related field. Good command in English language (spoken and written) is a prerequisite. An eligible candidate should have submitted the PhD thesis for assessment by the application deadline.

Applicants who do not master a Scandinavian language should provide evidence of good written and spoken English language skills. The following tests can be used as documentation: TOEFL, IELTS, Cambridge Certificate in Advanced English (CAE), or Cambridge Certificate of Proficiency in English (CPE). Minimum scores are:

- TOEFL: 600 (paper-based test), 92 (Internet-based test)
- IELTS: 6.5, with no section lower than 5.5 (only Academic IELTS test accepted)
- CAE/CPE: grade B or A.

The application

The following documents need to be attached in the application:

- A brief research statement, describing the candidate's research interests and plans, and publication plan (maximum 3 pages in total)
- CV as PDF including a full list of publications with bibliographical references. Indicate the most important publications that are relevant for the evaluation of the applicant's qualifications (maximum 10 publications).

- Testimonials and certificates
- Other documents which the applicant would find relevant

Incomplete applications will not be taken into consideration.

Formalities

The candidate appointed must comply with the regulations for employees in the public sector. In addition, a contract will be signed regarding the period of employment.

Applicants must be qualified for admission to a PhD study program at NTNU. See <http://www.ntnu.no/ie/forskning/phd> for information about PhD studies at NTNU.

We can offer

- an informal and friendly workplace with dedicated colleagues
- academic challenges in a cross-disciplinary team
- attractive schemes for home loans, insurance and pensions through the Norwegian Public Service Pension Fund

For further information about the position, contact Professor Stefan Werner, email: stefan.werner@ntnu.no

Depending on qualifications and academic background, postdoctoral fellows (1352) will be remunerated at a minimum of NOK 490 500 per year before tax and the position as. There will be a 2 % deduction to the Norwegian Public Service Pension Fund from gross wage. The appointment is subject to the conditions in effect at any time for employees in the public sector.

The Faculty of Information Technology and Electrical Engineering wants to attract outstanding and creative candidates who can contribute to our ongoing research activities. We believe that diversity is important to achieve a good, inclusive working environment. We encourage all qualified candidates to apply, regardless of the gender, disability or cultural background.

Under Section 25 of the Freedom of Information Act, information about the applicant may be made public even if the applicant has requested not to have his or her name entered on the list of applicants.

Deadline for applications: April 5, 2018

Jobbnorge ID: 148920, Deadline: Closed