Jobbnorge-ID: 126825
Søknadsfrist: Avsluttet
Nettside:
Omfang:
Varighet:

Postdoctoral Research Fellow in ICT

The University of Agder invites applications for one fixed-term appointments as Postdoctoral Research Fellows in Information and Communication Technology for a period of two years, with possible contract extension, subject to performance evaluation. This position is currently located in Grimstad, Norway. The starting date is as soon as possible.

The Department of ICT has several active research groups in Information and Communication Technology including 12 Professors, 25 Associate Professors, 10 Assistant Professors and about 15 Research Fellows on the PhD Programme in ICT. The Department of Information and Communication Technology (ICT) pursues a variety of research interests, focusing especially on Wireless Communications and Embedded Systems, Data Analytics, Crisis management, e-Learning and e-Health. The department has successfully led a number of large research projects funded by the Research Council of Norway, the EU research programmes FP7 and H2020, as well as national and international industries.

The research in the Department of ICT is carried out by different research groups, which are further divided into research labs. The herein announced position(s) will be part of a recently established lab, namely, the Intelligent Signal Processing & Wireless Networks (WISENET) Lab, led by Prof. Baltasar Beferull-Lozano. Currently, the WISENET Lab is in expansion phase, having at the present five PhD students and three postdoctoral researchers working on different cutting edge research projects. The WISENET Lab is leading several cutting edge research projects and is committed to achieving international research excellence, please see the notes about prospective Postdoctoral researchers at WISENET before applying.

The Postdoctoral position will be offered in the areas of Distributed Intelligence and Data Analytics for Wireless Sensor Networks and Cyber-Physical Systems, advancing both theoretical aspects and algorithm designs, and considering also applications in large-scale industrial distributed monitoring and control applications, by participating in highly interdisciplinary research projects.

Research topics for Postdoc position

Large-scale heterogeneous Wireless Sensor Networks and Cyber-Physical Networked Systems are becoming a technological cornerstone for many important applications in today's society. These collections of autonomous and distributed nodes capable of sensing, communication, processing and self-organization are emerging as a new era of intelligent information-driven paradigms. On the other hand, the deployment of these networked systems in several industrial environments is generating tremendous streams of daily data in various formats and qualities, which describe the operation, condition, performance and status of a wide range of equipment and complex space-time dynamic processes. This represents not only an additional large volume of data to explore and the need for more efficient and scalable data analysis algorithms, but does also raise additional challenges for real-time stream data processing, distribution, storage and machine learning (both centralized and decentralized methods).

Your research will investigate analytical methods that aggregate the information from different machinery and multiple industrial components at different levels, exploit their spatial and temporal dependences, utilizing novel adaptive methods for data mining and signal processing to predict and detect "unexpected" anomalies in system behavior or changes in the performance of different types of (sequential or in-loop) processes. This research is motivated in part by the demanding needs in several industrial environments, such as offshore Oil and Gas Platforms. The main goal is to evolve towards a high degree of self-organized autonomous operations, reducing the cost requirements, making systems smarter, more energy efficient and autonomous, minimizing the number of specialists that are required off-shore, as well as trading-off this optimally with the needs of communication between off-shore and on-shore, maximizing performance and providing also support to on-shore centers for high-level decisions.

The Postdoctoral researcher position will be devoted to the following topics:

a) Distributed algorithms for in-network intelligence and control.
b) Learning of space-time dependencies from multiple sensor data in complex processes.
c) Graph signal processing for data analytics, causal inference and machine learning.
d) Optimization algorithms and implementation platforms for critical tasks in data analytics.

Apart from conducting research, the Postdoctoral researcher is also expected to provide support in PhD student supervision.

To be regarded as an eligible applicant, the candidate should have:

- A PhD in Electrical Engineering, Computer Engineering, Computer Science (or similar). A PhD in Mathematics is also welcome as long as the area of research of the candidate intersects sufficiently with the relevant research areas for this position. To be considered for the position, applicants must have either finished already their PhD during the last five years or have a date of PhD defense that will take place during 2016. In any case, the PhD Thesis should be in a field that is relevant for this position.
- Strong knowledge and experience in most of the following areas:
    - Design and implementation of distributed algorithms for distributed intelligence in Wireless Sensor Networks or Cyber-Physical Systems.

- Modeling of low-rank structured sensor data and space-time processes.
- Data analytics techniques based on advanced optimization and signal processing.
- Semantic sensor knowledge management tools and processing of data streams.
- Statistical signal processing
- Graph signal processing.
- Programming in Matlab, C/C++, Java and Python.

Experience in *Testbed implementation* is also welcome.

Candidates should also have:

- Scientific ambition.
- Motivation and strong interest in cutting-edge research.
- Good analytical and problem solving skills.
- Good team-working skills, inventiveness and a proactive attitude.

The publication of scientific papers in high impact journals and first class international conferences related to the aforementioned topics will be considered, as well as previous participation in national and European projects.

In return, we offer the opportunity to contribute to the strategic capabilities of a world-class research organization, working within an excellent research environment, training in a range of state-of-the-art scientific skills, intellectual property and project management skills. You will collaborate with top scientists in your field and have excellent prospects for personal development in an innovative working environment for aspiring researchers.

Further provisions relating to the position as Post-doctoral Research Fellow can be found in the Regulations Concerning Terms and Conditions of Employment for the Post of Post-doctoral Research Fellow, Research Fellow, Research Assistant, and Resident.

A high level of oral and written proficiency in English is required.

The Norwegian public service is committed to reflecting the diversity of society, and the personell policy of the University of Agder aims to achieve a balanced workforce. All qualified persons are therefore encouraged to apply for the position, irrespective of cultural background, gender, age or disability.

Women are especially encouraged to apply.

Appointment is made by the University of Agder's Appointments Committee for Teaching and Research Positions. The successful applicant will have rights and obligations in accordance with current regulations for the public service and the position.

The position is remunerated according to the State salary scale, salary plan 17.510, code 1352 Postdoctor, salary grades 57-72 (483.700 NOK-640.700 NOK). A 2 % compulsory pension contribution to the Norwegian Public Service Pension Fund is deducted from the pay according to current statutory provisions.

Short-listed applicants will be invited for interviews. With the applicant's permission, UiA will also conduct a reference check before appointment.

Submit your application and CV online. Please click on the link **"Apply for this job"**. The following documentation should be submitted as attachments to the online application:

- *Copies of certified diplomas, transcripts and letters of reference.*
- *Electronic copy of or link to your PhD Thesis and Master's Thesis*
- *Summary and links to your scientific publications*
- *A description of your research interests, motivation and background in line with the project applied for.*

The applicants are fully responsible for submitting complete documentation in a sufficient number of copies. Without complete documentation we cannot, unfortunately, include you in the assessment process.

Closing date: 19.08.16

For further information please contact Professor Baltasar Beferull-Lozano, email baltasar.beferull@uia.no , tel: + 47 37233159 or Head of Department Professor Folke Haugland, tel. +47 37233112, email folke.haugland@uia.no

In accordance with §25(2) of the Freedom of Information Act, applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the name of applicants. Applicants will be advised of the University's intention to exercise this right.

Tilleggsinformasjon

Arbeidssted: