PhD Research Fellow in Data Stream Processing and Privacy Protection - two positions

Job description
Two positions as PhD Research Fellow in data stream processing and privacy protection available at the Department of Informatics.

The fellowship period is 3 years and devoted to carrying out a project entitled (Parrot: Privacy Engineering for Real-Time Analytics in Human-Centred Internet of Things). Depending on qualification and interest, the Department might fund a fourth year for a compulsory work load of 25% (over four years) that may consist of teaching, supervision duties, and research assistance.

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo. Starting date to be agreed upon with Department of Informatics.

Project description
This PhD Fellowship is part of the Parrot project funded by the research Council of Norway. The Parrot project is an international collaboration between the University of Oslo (Norway) and the Technical University of Darmstadt (Germany). The application domain of Parrot is in human-centric IoT (including participatory sensing and mHealth), which are especially prone to privacy issues.

The goal of Parrot is to develop privacy engineering solutions to the benefit of all stakeholders in the value chain on these systems, i.e., data subjects, application developers, service providers and service users. This means to (1) provide data subjects with the requested level of privacy protection, (2) relieve application developers from the burden of implementing privacy protection, and (3) take care that privacy protection does not hamper the data quality and assures by this the usefulness of the service for (real-time decision making of) service users.

Scientific and technical challenges that are addressed in this research project include:

- Expressing and matching of privacy concerns of end-users and data quality requirements for data analytic.
- Characterizing privacy protecting mechanisms in terms of protection level and impact onto data quality.
- (Semi-)automatic rewriting of queries for Complex Event Processing (CEP) systems and automatic placement of operator graphs in distributed (mobile) CEP systems under security and privacy concerns.
- Design and implementation of a fully decentralized and trustworthy overlay for distributed CEP systems.
- Experimental and empirical evaluation of solutions developed in the project.

Qualification requirements
The Faculty of Mathematics and Natural Sciences has a strategic ambition to be among Europe’s leading communities for research, education and innovation. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials.

- Master’s degree or equivalent in Computer Science
- Foreign completed degree (M.Sc.-level) corresponding to a minimum of four years in the Norwegian educational system

It is required that the successful candidate documents experience in at least one of the following domains:

- Practical privacy protection
- Data stream processing systems
- Query processing
- Distributed mobile systems and overlay networks

Furthermore, it is required that the candidate can demonstrate the ability to implement proof-of-concept systems and use them for experimental evaluation.

Grade requirements:
The norm is as follows:

- the average grade point for courses included in the Bachelor’s degree must be C or better in the Norwegian educational system
- the average grade point for courses included in the Master’s degree must be B or better in the Norwegian educational system
- the Master’s thesis must have the grade B or better in the Norwegian educational system
- Fluent oral and written communication skills in English.
- English requirements for applicants from outside of EU/ EEA countries

The purpose of the fellowship is research training leading to the successful completion of a PhD degree.

The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position. For more information see:

http://www.uio.no/english/research/phd/
We offer
- Salary NOK 482 200 - 526 000 per annum depending on qualifications and seniority as PhD Research Fellow (position code 1017)
- Attractive welfare benefits and a generous pension agreement
- Vibrant international academic environment
- Career development programmes
- Oslo’s family-friendly surroundings with their rich opportunities for culture and outdoor activities

How to apply
The application must include:

- Cover letter - statement of motivation and research interests
- CV (summarizing education, positions and academic work - scientific publications)
- Copies of the original Bachelor and Master's degree diploma, transcripts of records and letters of recommendation
- Documentation of English proficiency
- List of publications and academic work that the applicant wishes to be considered by the evaluation committee
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)

The application with attachments must be delivered in our electronic recruiting system, please follow the link "apply for this job". Foreign applicants are advised to attach an explanation of their University's grading system. Please note that all documents should be in English (or a Scandinavian language).

Applicants may be called in for an interview.

Formal regulations
Please see the guidelines and regulations for appointments to Research Fellowships at the University of Oslo.

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo.

According to the Norwegian Freedom of Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results etc.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

Contact information
Professor Thomas Plagemann, phone: +47 228 52743, e-mail: plageman@ifi.uio.no
or Professor Vera Goebel, phone: +47 228 52402, e-mail: goebel@ifi.uio.no.

For questions regarding the recruitment system, please contact HR Adviser Torunn Standal Guttormsen, phone:+47 22854272, e-mail:t.s.guttormsen@mn.uio.no

About the University of Oslo

The University of Oslo is Norway's oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

The Department of Informatics (IFI) is one of nine departments belonging to the Faculty of Mathematics and Natural Sciences. IFI is Norway's largest university department for general education and research in Computer Science and related topics.

The Department has more than 1800 students on bachelor level, 600 master students, and over 240 PhDs and postdocs. The overall staff of the Department is close to 370 employees, about 280 of these in full time positions. The full time tenured academic staff is 75, mostly Full/Associate Professors..

Jobbnorge-ID: 196236, Søknadsfrist: 15. desember 2020