

**NTNU - knowledge for a better world**

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

## 2 PhD Fellowship Computational Sepsis Mining and Modelling (CoSeM) (IE 131-2018)

The [Faculty of Information Technology and Electrical Engineering](#) at the Norwegian University of Science and Technology (NTNU) has vacancies for two Computer Science PhD fellowships at the [Department of Computer Science \(IDI\)](#), within large-scale, longitudinal interpretation and analysis of patient records for individualized decision support. The appointment is for 4 years with 25% teaching duties or 3 years without.

### Information about the department

The Department of Computer Science (IDI, [www.idi.ntnu.edu](http://www.idi.ntnu.edu)) employs around 30 professors, 53 associate/assistant professors, 21 adjunct professors, approximately 112 PhD students and post-doctoral/ researchers, and 24 technical/administrative staff. More than 7,000 students take courses given at the department each year.

### Work description

The positions will be affiliated with the Mid-Norway Sepsis Research Group ([www.sepsisgroup.org](http://www.sepsisgroup.org)) at St. Olavs University Hospital, which has 15 employees and conducts research, education and training to reduce sepsis incidence and mortality. The positions will be located at the main Gløshaugen campus, but also at the adjacent Øya hospital campus in Trondheim.

The CoSeM project aims to provide precise prevention and intervention for patients at risk for sepsis. A primary objective is to retrospectively characterize individual signs, patterns and exposure that may indicate susceptibility to sepsis. Sepsis research in Trondheim is in a unique position for doing combined Genome-Wide Association Studies and patient history pattern discovery in the large HUNT cohort.

The PhD positions are granted from the NTNU Health strategic research area in collaboration with the Faculty of Medicine and Health Sciences and the Faculty of Information Technology and Electrical Engineering. The project will give the Health Platform ([helseplattformen.no](http://helseplattformen.no)), the future, unifying EHR for Central Norway, research-based advice on risk reduction, precision medicine and data-driven healthcare. The project will collaborate closely with the BigMed national lighthouse project at Oslo University Hospital ([bigmed.no](http://bigmed.no)) and Yale University in the US.

The positions will employ methods from health data mining, medical language understanding and clinical decision support, and will develop computational models of evidence causality, clinical knowledge, patient processes, domain constraints and risk accumulation.

### Qualifications

The positions will require a master degree or similar in Computer Science, including both experience and formal competence in subjects like semantic modelling, constraint reasoning, logic programming, machine learning, natural language processing, planning and data mining. Formal training and experience within healthcare is preferable, but not required. All candidates will work with Norwegian clinical data, and good command of a Scandinavian language is wanted.

Furthermore, we look for candidates with demonstrable qualifications in:

- Programming, software engineering and design.
- Practical use of open source tools and environments for both research and development
- Both multidisciplinary collaboration and conscientious independence
- Excellent English written and oral communication skills
- Ability to quickly acquire new practical and theoretical knowledge.

For non-native English speakers from outside Scandinavia, the following tests (and minimal scores) can be used as documentation for English skills:

- TOEFL (> 600 paper, > 92 net), Academic
- IELTS (> 6.5, no section < 5.5), and Cambridge
- CAE or CPE (grade A or B).

The applicant's suitability to hold a scientific position will be emphasized in the selection process.

### Formal regulations

Appointments will be made in accordance with current university regulations. The successful applicant must agree to the conditions laid down for public employees and must sign a contract regulating the starting date and duration of employment.

### Salary conditions

The position is in code 1017 PhD, salary grade range from 50 in the Norwegian State salary scale, gross NOK 436 900 per year, depending on qualifications. A deduction of 2% is made from the salary as a mandatory contribution to the Norwegian Public Service Pension Fund.

### General information

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.

As far as possible, the State workforce should reflect the diversity of the population. Goals of our personnel policy therefore include a balanced distribution in terms of age and gender as well as recruitment of people of immigrant 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.

The application must contain:

- A cover letter including an explanation of how your research interests and background would fit the position.
- Information about education and relevant experience (academic CV).
- Certified copies of academic diplomas and certificates. (Applicants from universities outside Norway are kindly requested to attach a [diploma supplement](#) or a similar document, which describes in detail the study and grading system and the rights for further studies associated with the obtained degree.)
- Names and contact information of at least two references

Incomplete applications may not be taken into consideration.

The application must be sent electronically as one combined PDF file via this page (Jobbnorge.no).

For further information, please contact Associate Professor Øystein Nytrø, e-mail: [nytroe@ntnu.no](mailto:nytroe@ntnu.no), phone +47 99528559 or the Head of the Department Professor John Krogstie, e-mail: [john.krogstie@ntnu.no](mailto:john.krogstie@ntnu.no), phone: +47 934 17 551.

For information about processing of applications, please contact Senior Executive Officer Anne Kristin Bratseth, phone +47 73596715, e-mail [anne.kristin.bratseth@ntnu.no](mailto:anne.kristin.bratseth@ntnu.no).

Mark the application IE 131-2018  
Deadline for application: 31.07.2018

Jobbnorge-ID: 154110, Søknadsfrist: Søknadsfristen er gått ut