



# UiT The Arctic University of Norway

## Faculty of Science and Technology - Department of Physics and Technology

[UiT The Arctic University of Norway](#) is massively extending its efforts in education and research in the field of health technology. This effort is a follow-up to the governmental strategic plan for Research and higher education in Norway, within the fields of “new technologies”, “digitalisation” and “health”. Starting with fall semester 2018, two 5-year studies will educate masters of technology with a specialization in health technology. The programs are specializations within the integrated master programs in computer science, and in applied physics and mathematics.

This strategic initiative builds on a long track record of collaboration between the Faculty of Science and Technology, the Faculty of Health Sciences, and the University Hospital of North Norway. One of the highlights in this long-term collaboration was the Tromsø Telemedicine Laboratory (TTL, 2007-2014) as one of the first Centers for Research Based Innovation (SFI) at UiT, with these three stakeholders among the consortium members.

Based on this expertise, we wish to recruit 5 new professors / associate professors with the ambition to advance the field of health technology at UiT to the highest international level. We announce four positions in [computer science](#), and one position in machine learning.

The fields of expertise for the announced positions provide key technologies required to shape future health care and healthy living, by enabling applications spanning from smart homes and assisted living based on a huge variety of sensors, via diagnostic support systems and big data analytics, to highly specialized surgical interventions using robotics and augmented reality.

## Professor/Associate Professor in Machine Learning for health data analysis

The [Department of Physics and Technology](#) has a vacant position as professor/associate professor, and seeks a researcher with a proven track record in the development of machine learning methodology for health-related data analysis.

The position will be part of the [UiT Machine Learning Group](#). The candidate will strengthen the already existing research on health data analysis, and should be strong on the development of novel machine learning algorithms. The applicant should value working in an interdisciplinary environment in close contact with clinicians and health personnel. Additional areas of interest are welcome.

For inquiries about for the positions, please contact:

- Head of Department of Physics and Technology, Professor Odd Erik Garcia: [odd.erik.garcia@uit.no](mailto:odd.erik.garcia@uit.no)
- Dean of Faculty of Science and Technology, Professor Arne Smalås: [arne.smalas@uit.no](mailto:arne.smalas@uit.no)

### The position's field of research

We seek a candidate with a strong background in machine learning and related fields (pattern recognition, computational statistics), and with the analytical skills to apply these to the exploitation of health data. We are particularly interested in someone with knowledge of neural networks and deep learning, and other possible fields of expertise could be kernel machines, Bayesian computing, geometric and manifold learning, and dictionary learning. A strong general background in statistical learning is required.

Strengthening of the already existing research on health data analysis includes the activity on statistical inference by analysis of (big) data from electronic health records for decision support as well as for diagnosis and prognosis support (e.g. medical image analysis by deep learning, free text analysis, analysis of diagnosis and procedure codes, analysis of vital signs). Research activities in medical image analysis, e.g. by deep convolutional neural networks for example in collaboration with the PET-center in Tromsø, also exemplify possibly interesting areas for this position.

The UiT Machine Learning Group has grown considerably the last few years, and we expect the growth to continue. The current research fields of the group members are development of the next generation machine learning algorithms based on deep neural networks (convolutional networks, auto-encoders, recurrent), kernel machines, graph theoretic approaches, reinforcement learning, and new statistical developments such as the Mellin transform. Group-wide applications are within health, remote sensing, and industry. The group is also involved in diabetes research.

### Qualification requirements

You must hold a PhD, have demonstrated an ability to conduct outstanding research, and have a strong commitment to engagement outside of academia in ways that foster significant commercial or societal impact. We expect you to pursue an active research program, to teach bachelor, master and PhD level courses, and to supervise graduate students.

*For a position as associate professor*, you should have a good publication record in terms of papers in peer-reviewed journals and other relevant international publication channels. Documented external funding, experience with research leadership and relevant collaboration with industry will be rated positively. As an associate professor, we expect you to aim at developing yourself further to a full professor.

*For a position as professor*, you should demonstrate international experience and have a strong publication record in terms of papers in peer-reviewed journals and other relevant international publication channels. You should document the ability to obtain external funding from relevant sources, and be able to initiate and lead research at a high international level. We will also assess outreach, network and teaching and supervision activities.

UiT follows [national guidelines](#) for professorial promotion within Mathematics, Science and Technology disciplines when evaluating candidates for professorships.

We will emphasize personal suitability in our assessment. We expect you to actively contribute to academic culture, think beyond the core of your own research interests and have good collaboration skills necessary for joint interdisciplinary projects. You must be willing to participate actively in the ongoing development of the discipline, the department, and the university as a whole.

You must document teaching qualifications by submitting a teaching portfolio, see the website for [basic pedagogical competence](#).

You must be fluent in oral and written English. Applicants who are not fluent in a Scandinavian language must learn Norwegian within 3 years and pass the language exam level C1 ("Bergenstesten" or equivalent).

## Application

- Letter of application
- Diplomas
- CV including information relevant for the qualifications and a full list of publications with bibliographical references
- Brief research plan and vision statement (1 page) for the next 3-5 years, also identifying internal and external collaboration partners
- Documentation of external research funding raised during the career. This documentation should be clear about who had what type of roles in the projects. Three references with contact information
- Up to ten top scientific publications. Your doctoral thesis is regarded as one work.
- Description of your research stating which works you consider most important and a brief description of the other listed works.
- Teaching portfolio of minimum three pages, informing about your work with students, describe and reflect on your own teaching, and present contributions to development of teaching. It will typically contain teaching philosophy, documentation of teaching activities demonstrating planning,
- accomplishments and assessment, evaluations of the teaching, and experiences in developing courses and curricula. Attach certificates, reports, and other relevant documents.

Documentation have to be in English or a Scandinavian language. Submit applications electronically through [Jobbnorge](#).

## Interim appointment

If there are no fully qualified applicants for the position, we may make an interim appointment to qualify for a period of three years. Before the three-year period elapses a permanent appointment is made in the event that you are suitably qualified, based on a new assessment.

In the event of an interim appointment based on lacking teaching qualifications, you must develop an approved teaching portfolio. The appointment will become permanent if you are found to be suitably qualified before the three-year period elapses.

## We offer

- Allocation of resources for start-up in the position
- The possibility to work in a vibrant group at the forefront of machine learning research
- R&D sabbatical conditions which are considered to be some of the best in the country
- A good working environment
- Good welfare arrangements for employees
- Good arrangements for pension, insurance and loans in the Norwegian Public Service Pension Fund

The remuneration for Professor is in accordance with the State salary scale code 1013, and Associate Professor in accordance with code 1011. A compulsory contribution of 2% to the Norwegian Public Service Pension Fund is deducted. In addition, UiT pays 12% directly to the Pension Fund on top of the salary.

Employees in permanent positions as professor/associate professor have the right to apply for a paid sabbatical (research and development).

In general, a professor/associate professor spend an equal amount of time on teaching and research and development work, after time spent on other duties has been deducted. As a norm, the time resources spent on administrative duties constitutes 5 % for academic staff in this category of position. The allocation of working hours is flexible and allocated on a case-by-case basis.

More information about moving to Tromsø: <http://uit.no/mobility>

## General

We make the appointment in accordance with the regulations in force concerning State Employees and Civil Servants, and guidelines at UiT. At our website, you will find more [information for applicants](#).

UiT the Arctic University of Norway wishes to increase the proportion of females in senior research positions. In the event that two or more applicants are found to be approximately equally qualified, female applicants will be given priority.

UiT the Arctic University of Norway has HR policy objectives that emphasize diversity, and encourages all qualified applicants to apply regardless of their age, gender, functional ability and national or ethnic background. The university is an IW (Inclusive Workplace) enterprise, and emphasize making the necessary adaptations to the working conditions for employees with reduced functional ability.

*Personal data given in an application or CV is processed in accordance with the Personal Data Act. You may request not to be registered on the public list of applicants, but the University may decide that your name will be made public. You will receive advance notification in the event of such publication*

