Jobbnorge ID: 229495
Deadline: 8/1/2022
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Computer Science has a vacancy for a

PhD Candidate in Deep Learning for Capsule Video Endoscopy

This is NTNU
NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 42,000 students work to create knowledge for a better world.

You will find more information about working at NTNU and the application process here.

Video: https://youtu.be/Xt-yHCN5QS0

About the position
Digestive system diseases like Crohn's disease, inflammatory bowel disease, and cancer, are affecting a large population across the world. Wireless capsule endoscope is a good alternative for screening colorectal cancer and other digestive diseases which is both relatively pain free and eliminates the fear of traditional colonoscopy with foreign object insertion into body. The position will focus on machine learning techniques for improving diagnosis cancer and other digestive diseases in wireless capsule endoscopy.

The PhD position is part of the project "CapsNetwork - International Network for Capsule Imaging in Endoscopy" funded by the Research Council of Norway. For a position as a PhD Candidate, the goal is a completed doctoral education up to an obtained doctoral degree.

Your immediate leader is the Head of Department.

Duties of the position
- Conduct a stand-alone research project using machine learning techniques for improving diagnosis cancer and other digestive diseases in wireless capsule endoscopy.
- Participate in the general activities of the Colourlab.
- Participate in the general activities of the department.
- Undertaking the necessary courses (30 ECTS) as part of the PhD programme within Department of Computer Science.
- Submitting an application for admission and a research plan no later than 3 months after the employment.
- Conducting high quality research and report progress on a regular basis and in agreement with the supervisors.
- Participate in international activities such as conference attendance and research stays at educational partner institutions abroad

Required selection criteria
- You must have a professionally relevant background in computer science, image processing, video processing, machine learning, or similar.
- Your education must correspond to a five-year Norwegian degree program, where 120 credits are obtained at master's level.
- You must have a strong academic background from your previous studies and an average grade from the master's degree program, or equivalent education, which is equal to B or better compared with NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic basis. If you have a weaker grade background, you may be assessed if you can document that you are particularly suitable for a PhD education.
- Master's students can apply, but the master's degree must be obtained and documented by September 2022.
- You must meet the requirements for admission to the faculty`s doctoral programme in computer science.
- Experience in machine learning or deep learning for image and video analysis.
- Good programming knowledge and experience. (documented open-source code on Github and alike).
- Excellent oral and written communication skills in English and an ability to communicate effectively.

The appointment is to be made in accordance with Regulations concerning the degrees of Philosophiae Doctor (PhD) and Philosodophiae Doctor (PhD) in artistic research national guidelines for appointment as PhD, post doctor and research assistant

Preferred selection criteria

- Experience in image or video processing.
- Knowledge of machine learning and frameworks like PyTorch, Keras or Tensorflow.
- Experience in scientific publishing in relevant domains will be considered positive for evaluation.

Personal characteristics

- High motivation for research work and ability to work independently.
- Well organized.
- Ability to work both individually and in a (virtual) team environment with a high level of personal responsibility, initiative, and leadership skills.
- Flexibility and ability to take direction and accommodate feedback from diverse stakeholders.
- Ability to meet deadlines and produce work of a consistently high standard.
- Eager to disseminate research results through publications and presentations at international conferences.

Emphasis will be placed on personal and interpersonal qualities.

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and inclusive work environment with dedicated colleagues
- favourable terms in the Norwegian Public Service Pension Fund
- employee benefits

Salary and conditions

As a PhD candidate (code 1017) you are normally paid from gross NOK 491 200 per annum before tax, depending on qualifications and seniority. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years.

Appointment to a PhD position requires that you are admitted to the PhD programme in Computer Science within three months of employment, and that you participate in an organized PhD programme during the employment period.

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants, and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criteria in the latter law will be prohibited from recruitment to NTNU.

After the appointment you must assume that there may be changes in the area of work.

It is a prerequisite you can be present at and accessible to the institution on a daily basis.

About the application

The application and supporting documentation to be used as the basis for the assessment must be in English.

Publications and other scientific work must follow the application. Please note that your application will be considered based solely on information submitted by the application deadline. You must therefore ensure that your application clearly demonstrates how your skills and experience fulfil the criteria specified above.

The application must include:

- A cover letter where the applicant describes his/her personal motivation and relevance with respect to the requirements of the advertisement.
- CV and certificates.
- Transcripts and diplomas for bachelor's and master's degrees. If you have not completed the master's degree, you must submit a confirmation that the master's thesis has been submitted.
- A copy of the master's thesis. If you recently have submitted your master's thesis, you can attach a draft of the thesis. Documentation of a completed master's degree must be presented before taking up the position.
- Name and contact information of three referees.
- If you have publications or other relevant research work (up to 3 items).

If all, or parts, of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education, both bachelor's and master's education, in addition to other higher education. Description of the documentation required can be found here. If you already have a statement from NOKUT, please attach this as well.

We will take joint work into account. If it is difficult to identify your efforts in the joint work, you must enclose a short description of your participation.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal and interpersonal qualities. Motivation, ambitions, and potential will also count in the assessment of the candidates.

NTNU is committed to following evaluation criteria for research quality according to The San Francisco Declaration on Research Assessment - DORA.

General information

NTNU believes that inclusion and diversity is our strength. We want to recruit people with different competencies, educational backgrounds, life experiences and perspectives to contribute to solving our social responsibilities within education and research. We will facilitate for our employees' needs.

NTNU is working actively to increase the number of women employed in scientific positions and has a number of resources to [promote equality.](#)

The city of Gjøvik has a population of 30 000 and is a town known for its rich music and cultural life. The beautiful nature surrounding the city is ideal for an active outdoor life! The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you want to reserve yourself from entry on the public applicant list, this must be justified. Assessment will be made in accordance with [current legislation](#). You will be notified if the reservation is not accepted.

If you have any questions about the position, please contact Prof. Marius Pedersen, telephone +47 93 63 43 85, email [marius.pedersen@ntnu.no.](#) If you have any questions about the recruitment process, please contact the HR-Team at the Department of Computer Science, e-mail: [hr@idi.ntnu.no](#).

If you think this looks interesting and in line with your qualifications, please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates attached. Applications submitted elsewhere will not be considered. Upon request, you must be able to obtain certified copies of your documentation.

Application deadline: 01.08.22

NTNU - knowledge for a better world

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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.

Department of Computer Science

We are the leading academic IT environment in Norway, and offer a wide range of theoretical and applied IT programmes of study at all levels. Our subject areas include hardware, algorithms, visual computing, AI, databases, software engineering, information systems, learning technology, HCI, CSCW, IT operations and applied data processing. The Department has groups in both Trondheim and Gjøvik. The [Department of Computer Science](#) is one of seven departments in the [Faculty of Information Technology and Electrical Engineering](#).

Additional information

Place of service:
Campus Gjøvik 2815 Gjøvik (Gjøvik Municipality)