![NTNU - Norwegian University of Science and Technology]

Jobbnorge ID: 192570
Deadline: 10/15/2020
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Information Security and Communication Technology has a vacancy for a

PHD position in Machine Learning for Ancient Manuscript Analysis

This is NTNU
At NTNU, creating knowledge for a better world is the vision that unites our 7 400 employees and 42 000 students.

We are looking for dedicated employees to join us.

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

Video: https://www.youtube.com/watch?v=cIgKd1SwGLI

About the position
The Department of Information Security and Communication Technology has a vacancy for a position as a PhD Candidate at the Faculty of Information Technology and Electrical Engineering (IE). This is a researcher training position aimed at providing promising researchers the opportunity of academic development in the form of a doctoral degree.

The Lying Pen of Scribes project will be carried out in close collaboration with researchers at the Norwegian Colour and Visual Computing Laboratory.

The position's working place is on NTNU's campus in Gjøvik and the candidate reports to Head of Department.

Duties of the position
The appointment is for a term of three years.

The Lying Pen of Scribes project is funded by a FRIPRO Toppforsk-grant from the Research Council of Norway (2019-24), hosted by the University of Agder (UiA), and chaired by Professor Årstein Justnes. In this project, an interdisciplinary team of researchers at UiA, NLA University College, MF Norwegian School of Theology, Religion, and Society, and NTNU - Norwegian University of Science and Technology.

The main goal of the Lying Pen of Scribes project is to produce a comprehensive resource of data, methods, and procedures for the interdisciplinary analysis of Hebrew and Aramaic Dead Sea Scrolls manuscripts and fragments through a combination of physical analyses, digital imaging, machine learning, study of scribal practices and media, and critical provenance research The position will have a focus on image and machine learning based pattern analysis for classification and identification of various kinds of images and metadata related to ancient manuscripts, especially Dead Sea Scroll manuscripts and fragments.

Depending on the skills and competence of the candidate, different aspects may be emphasized, for instance by focusing on

- writer identification
- temporal alignment of letters and text
- manuscript identification
- localization of text

Required selection criteria
The PhD-position's main objective is to qualify for work in research positions. The qualification requirement is that you have completed a master's degree or second degree (equivalent to 120 credits) with a strong academic background in Computer Science, Computer Engineering, Electrical Engineering, Information Security or equivalent education with a grade of B or better in terms of NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic foundation. If you are unable to meet these criteria you may be considered only if you can document that you are particularly suitable for education leading to a PhD degree.

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants and national guidelines for appointment as PhD, post doctor and research assistant.

For this position we seek candidates with the following qualifications:

- Experience with Machine Learning, Deep Learning, Image analysis
- Preferably previous experience with studying ancient manuscripts, hand writing recognition, feature extraction and representation, and possibly natural language processing techniques
- High motivation for research and ability to work independently
- Good programming skills

Applicants who are unable to meet these criteria may be considered only if they can document that they are particularly suitable candidates for education leading to a PhD degree.

Other qualifications:

- Willingness and ability to travel and participate in onsite collaborative activities with domain experts internationally, e.g. in France and Israel.
- Publication activities in the aforementioned disciplines will be considered an advantage.
- Good organization and communication skills with interest in wider context of own research and ability to engage in cross-disciplinary teams
- Good written and oral English language skills. The following tests can be used to document these skills: TOEFL, IELTS or Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE).

Personal characteristics
We are searching applicants who are:

- highly motivated for fundamental scientific research of practical relevance.
- highly motivated for research work in a multidisciplinary way and with abilities to work independently.
- well organized and with interest in wider context of own research and ability.
- eager to disseminate research results through publications and presentations at international conferences.
- eager to cooperate with other members and partners of the project, exchange experience and knowledge
- eager to learn new knowledge as required besides the core competence of the candidate
- Attend and follow up meetings within and outside of the project.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability.

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
PhD candidates are remunerated in code 1017, and are normally remunerated at gross from NOK 479 600 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 Information Security and Communication Technology

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.

The position is subject to external funding.

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 applications are only evaluated based on the information available on the application deadline. You should ensure that your application shows clearly how your skills and experience meet the criteria which are set out above.

The application must include:

- A cover letter (1 page) explaining your motivation and how your skills and experience relate to the research focuses of the position
- A draft research proposal outlining a possible approach for the position (1 page)
- CV with list of publications and GRE scores or other supporting documents (as proof of the candidates' study and language abilities)
- Relevant transcript of grades, diplomas, and certificates. The documents have to be translated to English unless they are in Norwegian, Danish, Swedish or English.
- A copy of the master thesis (in PDF), or, for those who are near to completion of their MSc, an extended abstract combined with a statement of how and when the applicant plans to complete the thesis.
- Two letters of reference, preferably from academic supervisors.
- Applicants from universities outside of Norway are kindly requested to send a diploma supplement (for European Master Diplomas outside Norway) or a similar document that describes in detail the study and grading system and the rights for further studies associated with the obtained degree

Joint works will be considered. If it is difficult to identify your contribution to joint works, you must attach a brief description of your participation.

Please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates. Applicants invited for interview must include certified copies of transcripts and reference letters.

General information
[Working at NTNU](#)

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background.

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.

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

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.

Information Act (Offentleglova), your name, age, position and municipality may be made public even if you have requested not to have your name entered on the list of applicants.

If you have any questions about the position, please contact; **Sule Yildirim Yayilgan, phone number: +47 466 231 72, e-mail: sule.yildirim@ntnu.no.** If you have any questions about the recruitment process, please contact **Stine Terese Ruen Nymoen, e-mail: stine.t.r.nymoen@ntnu.no.**

Please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates. Applications submitted elsewhere will not be considered. Diploma Supplement is required to attach for European Master Diplomas outside Norway. Chinese applicants are required to provide confirmation of Master Diploma from [China Credentials Verification (CHSI).](#)

If you are invited for interview you must include certified copies of transcripts and reference letters. Please refer to the application number **2020/3545** when applying.

Application deadline: 15.10.2020

NTNU - knowledge for a better world

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.

Department of Information Security and Communication Technology

Research is vital to the security of our society. We teach and conduct research in cyber security, information security, communications networks and networked services. Our areas of expertise include biometrics, cyber defence, cryptography, digital forensics, security in e-health and welfare technology, intelligent transportation systems and malware. The Department of Information Security and Communication Technology 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)