



PhD fellowship

About the position

A new PhD fellowship in algebraic and computational methods for time series analysis, supervised by Kurusch Ebrahimi-Fard, is available at the Department of Mathematical Sciences at NTNU starting in the fall of 2019. The successful candidate will be offered a three-year position. The Department may offer a six to twelve month extension as a teaching assistant. The work place will be Trondheim, Norway.

Main duties and responsibilities

In data science, one is often confronted with a time series representing some quantity of interest. Usually, in a first step, features of the time series need to be extracted. These are numerical quantities that aim to succinctly describe the data and to dampen the influence of noise. In many applications, these features are additionally required to satisfy some invariance properties. The recently introduced "iterated-sums signature" is invariant to time warping, hence making it - in theory - applicable to the vast set of problems where the dynamic time warping (DTW) distance is successfully used. Additionally, the iterated-sums signature enjoys many pleasant algebraic properties, drawing connection to modern developments in advanced algebra and combinatorics. The project involves joint collaboration with the group of Joscha Diehl at Univ. Greifswald, Germany.

This PhD position seeks to explore the notion of the iterated-sums signature at the interface of algebraic and computational questions on the one side and problems in time series analysis and computer implementations on the other side.

Qualification requirements

We are looking for a highly motivated candidate with experience in time series analysis, from the mathematical or the practical side. An enthusiasm for working with algebraic structures is a plus. Some coding background is beneficial, but not necessary.

The applicant must have a master's degree in mathematics, or corresponding education, and must also satisfy the requirement for entering the PhD programme at NTNU; please see <http://www.ntnu.edu/ie/research/phd>. The admission to PhD education at NTNU requires an average grade of A or B within a scale of A-E for passing grades (A best) for the last two years of the MSc, and C or higher for the BSc.

MSc students who expect to complete their master's degree studies by summer 2019 are encouraged to apply.

The applicants who do not master a Scandinavian language must document a thorough knowledge of English (equivalent to a TOEFL score of 600 or more).

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.

Personal characteristics

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

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. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The PhD fellow who speaks a Scandinavian language will be employed for 4 years with teaching and other duties of approximately 25% of the total available time. The PhD fellow who does not master a Scandinavian language will be offered a 3-year appointment.

Appointment to a PhD position requires admission to the PhD programme in Mathematics; please see <http://www.ntnu.edu/ie/research/phd> for information about the PhD programme at NTNU.

As a PhD candidate, you undertake to participate in an organized PhD programme during the employment period. A condition of appointment is that you are in fact qualified for admission to the PhD programme within three months.

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 criterias in the latter law will be prohibited from recruitment to NTNU. Appointment takes place on the terms that apply to State employees at any time, and after the appointment you must assume that there may be changes in the area of work.

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. Under the Freedom of Information Act (Offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

For further information, please contact: Kurusch Ebrahimi-Fard, email: kurusch.ebrahimi-fard@ntnu.no.

About the application:

The application must include the following:

- CV including information on educational background, work experience, preprints and publications.
- A short research statement explaining the experience and the interest of the candidate for the research topic and describing the relevance of the candidate's background to the research project (maximum 1 page).
- A copy of the master thesis, 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.
- Any relevant publications. Joint work will only be considered provided that a short summary outlining the applicant's contributions is attached.
- Certified copies of relevant transcripts and diplomas. Candidates from universities outside Norway are kindly requested to send a Diploma Supplement or similar documentation, which describes in detail the program of study, the grading system, and the rights to further studies associated with the degree obtained.
- Contact information for at least two references.
- Documentation of fluency in the English language.

Other documents, which the applicant find relevant may also be included. We may ask for further documents when it is necessary during the hiring process.

Please submit your application electronically via jobbnorge.no. Preferably, the attachments should be submitted as a single file. Please refer to the application number 2019/18167 when applying.

Application deadline: 24.08.2019.

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 Mathematical Sciences

We are Norway's largest university environment in mathematical sciences. The Department has a particular responsibility for all basis education in mathematical sciences for engineering and natural science students at NTNU. We focus on long-term basic research and applied research at a high international level.

Our aim is to meet the society's needs for mathematical and statistical expertise in business and public administration as well as in the research and education sector. [The Department of Mathematical Sciences](#) is one of seven departments in the [Faculty of Information Technology and Electrical Engineering](#).

Jobbnorge-ID: 172502, Søknadsfrist: Avsluttet