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Professor

Ecole/Institution/Société:
LULEÅ UNIVERSITY OF TECHNOLOGY, **Sweden / Lulea**

Discipline:
Signal Processing

Type d'emploi::
Full-time

Date de publication:
2025-02-23

Personne à contacter:
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Professor scholarship in Signal Processing

Reference number 63-2025

Luleå University of Technology is in strong growth with world-leading competence in several research areas. We shape the future through innovative education and ground-breaking research results, and based on the Arctic region, we create global social benefit. Our scientific and artistic research and education are conducted in close collaboration with international, national and regional companies, public actors and leading universities. Luleå University of Technology has a total turnover of SEK 2 billion per year. We currently have 1,500 employees and 17,900 students.

In the coming years, multi-billion investments will be made in large projects in Northern Sweden to create a fossil-free society both nationally and globally. Luleå University of Technology is involved in several of these cutting-edge research projects and in the societal transformation that they entail. We offer a broad range of courses and study programmes to match the skills in demand. We hope that you will help us to build the sustainable companies and societies of the future.

The department of Computer Science, Electrical and Space Engineering at Luleå University of Technology (LTU) is offering a scholarship for a Postdoctoral Fellow to carry out research with the Signal Processing group. Current research in Signal Processing takes place in the areas of measurement technology and wireless communications, in close cooperation with industry. In our research we seek to understand how to infer information from measurement data and how to reliably convey such information from one place or time to another. We are looking for an ambitious and creative colleague who wants to contribute to cutting edge research.

Project description

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Since the introduction of advanced imaging technologies, ultrasound systems have been extensively used in biomedical diagnostics and industrial non-destructive testing (NDT/E). While array-based imaging methods such as Full Matrix Capture have enhanced data acquisition, limitations in resolution and hardware complexity persist. With the development of optimized array designs and AI-driven methodologies, this research aims to explore the principles of array signal processing and machine learning to enable the next generation of ultrasound imaging and sensing solutions. The funding of this scholarship and project is provided by the Kempe foundations.

Subject description

The subject includes signal processing with emphasis on development and optimization of algorithms for processing single and multi-dimensional signals that are closely related to applications and applied research.

Qualifications

To qualify for a position as a postdoctoral research fellow, you must have a PhD, a doctoral degree or a foreign degree equivalent to a PhD or doctoral degree in signal processing or Ultrasound signal processing or in related topics. Experience in machine learning and MATLAB programming is desirable. Candidates should have an excellent mastering of the English language, both orally and in writing.

A doctoral degree awarded no more than five years before the application deadline provides a useful qualification. Candidates who have been awarded a doctoral degree at an earlier date may also be considered if there are special grounds, for example, different types of statutory leave of absence. Applicants who are very close to finishing a PhD are also encouraged to apply.

Further information

The postdoctoral fellowship is awarded for two years with placement in Luleå. The awarded scholarship recipient receives a scholarship of SEK 30 000 per month, which is higher than the average net income in the area. Starting date is according to agreement between the two parties.

For further information about the scholarship, please contact: Johan Carlson, Professor, johan.carlson@ltu.se

Read more about our work here.

Application

We prefer that you apply for this position by clicking on the apply button below. The application must include a CV, personal letter and copies of verified diplomas from high school and universities. Your application, including diplomas, must be written in English or Swedish. Mark your application with the

reference number below.

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