Postdoc Position: Efficient foundation model inference across the computing continuum

We are seeking highly motivated and talented applicants for a 1-year postdoctoral position (with the possibility of 1-2 year extension) in the area of efficient foundation model inference.

Join us at the Department of Electrical and Computer Engineering, Aarhus University, where we are advancing communication-efficient and distributed foundation model inference across the computing continuum — from Cloud to Edge. Our research aims to enable scalable, low-latency, and resource-aware deployment of large foundation models.

Expected start date and duration of employment
This is a full-time, fixed-term position for one year, starting on September 1, 2026, or as soon as possible thereafter.

The initial appointment will run until August 31, 2027, or for 12 months from the actual start date. An extension of 1–2 additional years may be offered, subject to satisfactory performance.

Job description
The successful candidate will contribute to cutting-edge research on topics including:

- Token compression and adaptive token pruning;
- Distributed and collaborative inference strategies;
- Mixture-of-Experts (MoE) architectures for scalable inference;
- Resource-aware and latency-constrained inference optimization;
- Edge intelligence and on-device foundation model deployment.

You will work in a dynamic and collaborative research environment, with opportunities to publish in top-tier venues and collaborate with leading academic and industry partners within the Horizion Europe Project.

Your profile
We are looking for a highly motivated and talented candidate with a background in deep learning. The required qualifications include:

- Ph.D. in Computer Science, Computer Engineering, Electrical Engineering or a related field;
- Strong background in Deep Learning (e.g., Transformers, foundation models);
- Strong programming skills in Python and experience with deep learning frameworks (e.g., PyTorch);
- Experience with distributed systems and edge AI;
- Strong publication record in reputable conferences or journals relative to career stage;
- Excellent written and spoken English communication skills.

The following qualifications will be considered as an advantage:
- Experience in working with stream data;
- Experience in working with Goal-oriented Communications;
- Experience with collaborative, cross-cultural research environments.

Who we are
You will be based at the Department of Electrical and Computer Engineering (ECE) at Aarhus University, a dynamic and growing department committed to excellence in research, education, and innovation. Our research spans Internet of things, machine

learning, signal processing, to digital twins, all with a strong emphasis on high impact research and societal relevance.

This position will be supervised by Professor Qi Zhang, whose research focuses on Edge Intelligence, Goal-oriented Semantic Communications, Internet of Things and Analytics on compressed data.

What we offer

We offer a vibrant and inclusive research environment with a clear commitment to real-world impact. Denmark is consistently ranked among the best countries in the world for work-life balance and quality of life. Family-friendly policies include generous parental leave, subsidised childcare, and access to excellent public healthcare and education. As a postdoc at Aarhus University, you will benefit from a supportive and flexible workplace culture that values diversity and offers excellent conditions for researchers and their families.
Specifically, we offer:

- Access to state-of-the-art facilities and computing infrastructure;
- Strong support for research career development, including mentoring and international networking opportunities;
- A commitment to diversity, equity, and inclusion in all aspects of our work;
- A workplace characterised by professionalism, equality and a healthy work-life balance.

Place of work and area of employment

The place of work is Helsingforsgade 10, 8200 Aarhus N, and the area of employment is Aarhus University with related departments.

Contact information

For further information, please contact: Professor Qi Zhang, +4541893253, qz@ece.au.dk.

Deadline

Applications must be submitted by April 30th, 2026.

Application procedure

Shortlisting is used. This means that after the deadline for applications – and with the assistance from the assessment committee chairman, and the appointment committee if necessary, – the head of department selects the candidates to be evaluated. All applicants will be notified whether or not their applications have been sent to an expert assessment committee for evaluation. The selected applicants will be informed about the composition of the committee, and each applicant is given the opportunity to comment on the part of the assessment that concerns him/her self. Once the recruitment process is completed a final letter of rejection is sent to the deselected applicants.

Letter of reference

If you want a referee to upload a letter of reference on your behalf, please state the referee's contact information when you submit your application. We strongly recommend that you make an agreement with the person in question before you enter the referee's contact information, and that you ensure that the referee has enough time to write the letter of reference before the application deadline.
Unfortunately, it is not possible to ensure that letters of reference received after the application deadline will be taken into consideration.

If you wish to add a referee **after** you have submitted your application, you must send this person's details (name, job title, place of work, and email address) as well as the name of the position you have applied for to: HR.Nattech@au.dk

Formalities and salary range

Technical Sciences refers to the Ministerial Order on the Appointment of Academic Staff at Danish Universities under the Danish Ministry of Science, Technology and Innovation.

The application must be in English and include a curriculum vitae, degree certificate, a

complete list of publications, a statement of future research plans and information about research activities, teaching portfolio and verified information on previous teaching experience (if any). Guidelines for applicants can be found here.

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Taxation and the Danish Confederation of Professional Associations. Further information on qualification requirements and job content may be found in the Memorandum on Job Structure for Academic Staff at Danish Universities.

Salary depends on seniority as agreed between the Danish Ministry of Taxation and the Confederation of Professional Associations.

Aarhus University's ambition is to be an attractive and inspiring workplace for all and to foster a culture in which each individual has opportunities to thrive, achieve and develop. We view equality and diversity as assets, and we welcome all applicants.

Research activities will be evaluated in relation to actual research time. Thus, we encourage applicants to specify periods of leave without research activities, in order to be able to subtract these periods from the span of the scientific career during the evaluation of scientific productivity.

Aarhus University offers a broad variety of services for international researchers and accompanying families, including relocation service and career counselling to expat partners. Read more here. Please find more information about entering and working in Denmark here.

Aarhus University also offers a Junior Researcher Development Programme targeted at career development for postdocs at AU. You can read more about it here.

The application must be submitted via Aarhus University's recruitment system, which can be accessed under the job advertisement on Aarhus University's website.

Aarhus University

Aarhus University is an academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 38,000 students (FTEs) and 8,300 employees, and has an annual revenues of EUR 935 million. Learn more at www.international.au.dk/