Postdoc in efficient Deep Learning for visual and multimodal data analysis

The Department of Engineering, Aarhus University, invites applicants for a 3-year postdoc position offering applicants an exciting opportunity to join the Machine Learning and Computational Intelligence group to pursue research on efficient Deep Learning techniques for visual data analysis and multimodal data analysis. The position is within our new EU (H2020-ICT RIA) project on Big Data technologies and extreme-scale analytics.

The project is fully funded by the H2020 ICT – RIA program "Multimodal Extreme Scale Data Analytics for Smart Cities Environments - MARVEL" for research and development in efficient and light-weight multimodal Deep Learning models with a focus on, but not exclusively for, visual surveillance tasks, including person/object detection, crowd counting and activity/anomaly detection. For more information about the group's work, see

https://eng.au.dk/en/research/electrical-and-computer-engineering/signalprocessing/machine-learning-and-computational-intelligence/people/, http://pure.au.dk/portal/en/ai@eng.au.dk and https://sites.google.com/view/iosifidis

You will be a member of the Machine Learning and Computational Intelligence group, which is strong in both theoretical and applied aspects of machine learning and its subareas (like deep learning and statistical learning). In recent years, we have received substantial competitive funding from the EU, the Independent Research Fund of Demark, the Innovation Fund of Denmark (through MADE consortium), and direct funding from companies. We have also seen close cooperation between different research groups around the world.

As a Postdoctoral Researcher, you will be a valuable member of the group and the department. You will be given the opportunity to co-supervise PhD students working in related topics. You will have the opportunity to disseminate results of the group through participating in Conferences, Workshops and meetings related to our work.

Job description/research project/research area

You are expected to contribute to research and development in Deep Learning methodologies for visual and multimodal data analysis for visual surveillance tasks, including person/object detection, crowd counting and activity/anomaly detection. This includes proposal of new methodologies, prototype implementation of the methods and integration to the project's software, results reporting, and dissemination in international conferences.

Your profile

Applicants should hold a PhD in Computer Science, Electrical and Computer Engineering, Applied Mathematics, or other related disciplines. Moreover, they should have a strong publication record in the fields related to Machine Learning, Deep Learning and/or Computer/Robotic Vision. Competence in research and development on Python, including recent Deep Learning libraries like PyTorch and TensorFlow are considered to be an advantage for the position. Fluent speaking and writing skills in English and the ability to interact in an international and interdisciplinary environment are important.

About the Electrical and Computer Engineering Section

Electrical and Computer Engineering are closely related engineering disciplines that focus on the development of hardware and software for intelligent units and networks. This includes hardware at system and component levels as well as many different types of software for controlling electronic devices and networks.

The research areas within the Electrical and Computer Engineering Section at Department of Engineering support the development within this area. The outcome greatly influences our daily lives as advanced technologies are incorporated into an increasing number of products, for example in industrial processes, at hospitals and in information infrastructures.

The place of work is Åbogade 34, 8200, Aarhus N, and the area of employment is Aarhus University with related departments.

Further information about the position may be obtained from / For further information please contact:

Application Deadline: 31 July 2020

Faculty: Faculty of Technical Sciences

Institute/Faculty: Department of Engineering

Academic contact

person: Alexandros Iosifidis Professor ai@ece.au.dk

Vacant positions:

Hours per week: 37

Number of months: 36

Expected date of accession: 01/10/2020

Associate Professor Alexandros Iosifidis Email: <u>ai@eng.au.dk</u> Tel. number: +45 93 50 88 75

Assistant Professor Lukas Esterle Email: <u>lukas.esterle@eng.au.dk</u> Tel. number: +45 22 46 48 93

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, including the main considerations emphasized during the selection process.

Formalities and salary range

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

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 <u>here.</u>

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Finance 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 Finance and the Confederation of Professional Associations.

All interested candidates are encouraged to apply, regardless of their personal background. 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 <u>here</u>. Please find more information about entering and working in Denmark <u>here</u>.

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

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 8,000 employees, and has an annual revenues of EUR 885 million. Learn more at <u>www.international.au.dk/</u>