PhD Opportunity in Machine Learning for Driver Assistance (University of Limerick)

Supervisors:
Dr. Ciarán Eising
Dr. Pepijn Van De Ven

Description:

The Data-driven Intelligent Computational Engineering (D²ICE) Group at the UL Dept of Electronic and Computer Engineering, in collaboration with Provizio and Lero, the SFI Research Centre for Software, are seeking a PhD candidate to work on an exciting project in the application of machine learning in radar and visual sensing for the prevention of road accidents. Given the wealth of information that is potentially available in radar-fusion sensing, there is a strong potential for machine learning algorithms to provide recognition, tracking, and prediction tasks for driver assistance and automated driving systems. For example, the position and trajectory of a pedestrian, vehicle or cyclist can be tracked and predicted, enabling a safer reaction of the host vehicle.

The project will be in collaboration with Provizio, who are headquartered in Limerick City. The Provizio team is made up of experts in robotics, artificial intelligence, computer vision and radar sensor development and are building an augmented, 'guardian angel' platform that could prevent road accidents. The candidate will work on AI solutions for automotive accident prevention using Provizio 5D radars with AI on-the-edge.

The successful candidate will work within the Data-driven Intelligent Computational Engineering Group in UL, under the supervision of Dr. Ciarán Eising (link, link) and Dr. Pepijn Van De Ven (link). This is a dynamic group of like-minded researchers investigating many applications of machine learning and computer vision, in areas such as automotive, robotics, medical, health and municipal, among others. The post is available on the 1st of January 2022 (or as soon as possible after that date). Funding will be provided, including stipend and fees, for a period of 4 years. The ideal candidate will have a Bachelor's (BE/BSc) or a Master's (ME/MSc) Degree in Electronic Engineering, Computer Engineering, Computer Science, Computational Mathematics, or a related numerate discipline.

Skills and Competencies:

The successful candidate will…

- Be passionate about artificial intelligence and machine learning
- Be enthused by the opportunity to work closely with industry collaborators
- Have strong computational skills (e.g., Python, MATLAB, C/C++, etc.)
- Have experience with machine learning tools (e.g., Scikit-learn, Tensorflow, PyTorch, etc.)
- Be comfortable with managing and curating large datasets
- Be self-motivated, output driven, and have good communication and presentation skills

The following attributes are desirable, but not required:

- Knowledge of radar systems or processing of radar data
- Industrial experience
- Experience in the use of neural networks, particularly CNNs
- Track record in publication of research

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Duration: 48 Months

Status: Full-time

Stipend: €18,500 /year (normally tax free if no other sources of income)

Commencement: January 2022 (or as soon as possible after)

For more information, please feel free to contact ciaran.eising@ul.ie.

Application procedure:
To apply, please submit your CV to ciaran.eising@ul.ie, including details of at least two referees. Shortlisted applicants may be invited to interview. On receiving an offer, the successful applicant will be required to submit supporting documentation (e.g., Copies of degree certificates and English language competency where required).

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