ADVANCED AUTONOMY FOR UNMANNED VEHICLES

Fully Funded PhD Position at The University of Queensland, Australia
School of Mechanical & Mining Engineering

Research area and project description:
Nowadays, the complexity robotic systems has increased enormously since human beings desire a higher level of intelligence and autonomy. Developed systems must be capable of autonomously adapting to the variations in the operating environment while maintaining to accomplish tasks even in highly uncertain and unstructured environments. Such robotic systems must display the ability to learn from experience, adapt, and seamlessly integrate information to-and-from humans.

The doctoral student will work in the intersection of the areas of robotics and automatic control. We are looking for a qualified and enthusiastic PhD student who wishes to investigate the embedded guidance, control, and navigation algorithms (e.g., model predictive control, adaptive control, and concurrent learning) for unmanned ground vehicles. We aim to leverage the current state-of-the-art autonomy level towards smarter robots, which can learn and interact with their environment, collaborate with people and other robots, plan their future actions, and execute the given task accurately.

Remuneration:
A fully-funded PhD position for 3-years (starting January 2020) with the possibility of two 6-month extensions in approved circumstances at the School of Mechanical & Mining Engineering, the University of Queensland, Brisbane, Australia.
- Living stipend scholarship = $27,596 per annum tax-free (2019 rate)
- Tuition scholarship
- Single Overseas Student Health Cover = approx. $4k)

There is potential for successful applicants to earn around $3,000 per annum through assisting in undergraduate teaching. Moreover, students are given financial support to attend an international conference during their PhD.

Eligibility / Selection Criteria:
Required:
- A Master’s degree in mechanical engineering, electrical engineering, aerospace engineering, computer science/engineering, control theory, mechatronics, applied mathematics, or other related disciplines.
- Strong background in control theory and robotics
- Excellent verbal and writing skills in English with excellent communication skills

Preferred:
- Experience in model-based control theory
- Hands-on experience in robotic systems
- Experience in Robot Operating System (ROS)
- Concrete knowledge in C/C++ or Python
- Demonstration of research activities (conference or journal papers)

How to apply:
Applicants will be required to apply for a scholarship via: https://scholarships.uq.edu.au/aauv

Please ensure you:
1) Select ‘I am applying for, or have been awarded a scholarship or sponsorship’,
2) Enter in the free-text field ‘AAUV’,
3) List the enrolling unit as the School of Mechanical & Mining Engineering and
4) Enter Dr Erkan Kayacan as your supervisor.

The application deadline is 28 October 2019, with a starting date of 1 January 2020 or later.

The research will be carried out under the supervision of Dr. Erkan Kayacan (https://www.erkank.net). For more detailed info: Dr. Erkan Kayacan (e.kayacan@uq.edu.au)

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