Available Positions: Learning Rare Events in Autonomous Driving

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We offer two fully funded **graduate fellowships** in Autonomous Vision Group at the Department of Computer Engineering of Koç University.

Koç University is a research oriented university in Istanbul with a growing presence in artificial intelligence (ai.ku.edu.tr).

Rare Events in Autonomous Vision

Autonomous vision aims to solve computer vision problems related to autonomous driving. In this project, we focus on detecting and identifying rare but catastrophic events that happen during driving.

Despite great advances in AI and the obvious benefits of self-driving cars, why do commercially-available cars still require human drivers?

A major reason is that these cars are still not as safe as we need them to be. Though they can easily manage frequent scenarios (such as driving straight, passing another car, etc.), there is a minefield of **infrequent but important situations** that cause the AI system to fail. Unfortunately, collecting enough data for the AI to learn how to deal with each of these situations could take decades. For these reasons, we will develop AI systems to effectively handle rare events *with limited data*.

Funding & Details

We offer both PhD and MSc positions that are fully funded by the KUIS AI Lab fellowship (ai.ku.edu.tr/ai-center-fellowships) and are subject to rules and regulations of the KUIS AI Lab (ai.ku.edu.tr/graduate-admissions). We encourage applications from diverse backgrounds, both national and international, especially from underrepresented groups.

In this project, we work together with experts from the University of Oxford (robots.ox.ac.uk/~joao) and the industry (five.ai, robots.ox.ac.uk/~luca). We combine our expertise in autonomous vision and in training AI systems with limited amounts of data. Partnerships with the industry will inform our research and allow direct real-world impact. In addition to the KUIS AI Lab fellowship, these collaborations bring **additional benefits**:

- Funding to visit the University of Oxford
- Possibilities for internships with our industrial partners
- The scholarship top-up
- Access to cutting-edge GPU equipment

Required Skills

We are looking for **highly motivated students** with an academic background in Computer Science and related fields. The following skills are required:

- A good understanding of mathematical and algorithmic concepts in computer science
- Good programming skills and flexibility to learn new languages and concepts
- Good communication skills in English
- A keen interest in machine learning and computer vision problems and algorithms for the betterment of society

How to Apply

Please send an email to Fatma Güney at fguney@ku.edu.tr with your CV, transcript, and a paragraph explaining **your motivation** for applying to this position (half a page max).