

**PhD position at the Delft University of Technology on:
Navigation for mobile robots in urban environments**

Safe and socially intuitive navigation is critical when moving among other robots and humans. Think of the challenges that one faces when navigating through busy streets. The goal of this project is to develop novel methods for motion planning and multi-robot coordination that grant high performance and demonstrate safe motion through changing, dynamic and crowded urban environments. Tools from constrained optimization, distributed consensus and machine learning will be employed. We expect a tight integration with perception and learning, with a focus on motion planning and decision-making. Tests will be performed with autonomous boats and/or automated cars navigating in urban environments. The main external collaborators in this project are the Massachusetts Institute of Technology (Roboat project) and the Amsterdam Institute for Advanced Metropolitan Solutions. The student will be part of the Learning and Autonomous Control section (Cognitive Robotics) and also collaborate with the Intelligent Vehicles section of TU Delft.

-- Requirements:

- MSc degree in Computer Science, Engineering, Applied Mathematics or a field related to Robotics.
- Strong interest in performing cutting-edge research in autonomous navigation and multi-robot coordination.
- Excellent academic record.
- Strong analytical, mathematical and programming (C/C++) skills
- Very good command of spoken and written English.
- Experience with robotic hardware, autonomous navigation, motion planning, constrained optimization or machine learning is a plus.

-- Conditions of employment:

We offer a four-year PhD research contract at the Cognitive Robotics department of the Delft University of Technology, which includes a contribution towards pension and social security. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities.

-- Information and application:

The Delft University of Technology is constantly ranked among the best universities in Engineering (World top 20 in THE and QS rankings). Information about our research can be found at <http://www.dcsc.tudelft.nl/~jalonsomora/>

To apply contact Dr. Javier Alonso-Mora (Assist. Prof.) j.alonsomora@tudelft.nl. Include your CV with publication list, the transcript of records from your BSc/MSc, a motivation letter stating your interest in the project and relevant experience, and two references whom we may contact.