

# Team Information



Picture of vehicle:

Name of vehicle: Atlascar



Picture of team leader:

Name of team leader: Vitor Santos

Team Name: University of Aveiro

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Website:

Location: Portugal

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Team Description: The University of Aveiro has a strong tradition in mobile robotics with a clear supremacy at national level in robot competitions. Indeed, The Portuguese Robotics Open, carried out annually since 2001, in the category of Autonomous Driving, has always been won by a team from the University of Aveiro. Also, at international level, the RoboCup MSL soccer competition has been won in 2008 by the CMBADA team, also from the University of Aveiro. Several members of these successful teams are included in the team to participate in ELROB, and is composed of researchers and students mainly from the areas of Mechanical and Electronics Engineering

# Team Information

The vehicle to use in Elrob is called ATLASCAR and is based on a standard gasoline fuelled Ford Escort van modified to include sensors and computational power aboard. Sensors include cameras, both mono and stereo, IMU, GPS, several lasers, including a modified 2D laser range finder for 3D scanning. The guidance is assured by a drive-by-wire system custom developed to operate in parallel to manual action.

Perception is based on multimodal sensor fusion and other techniques, including dynamic target tracking, and active perception approaches are also used. The development environment is done on Carmen-IPC and other open-source libraries.

The development of the ATLASCAR started in 2009 but many of the techniques used have been in development for several years in other small scale platforms. So far, the vehicle has been mainly used for data logging, creating large amounts of correlated and calibrated sensorial data namely, images, 3D point clouds, inertial and GPS data, among other.

Sponsors: Some private companies in Portugal connected to automation and similar fields.

Selection of scenario:

1. Autonomous Navigation
2. Transport - Mule
3. \_\_\_\_\_
4. \_\_\_\_\_

Proof of citizenship: A copy of team leader passport will do (will not be published)!