

Telemetry for a driverless race car.



We are looking for two motivated master students Electronics and ICT Engineering Technology

Project description:

Formula Electric Belgium (**FEB**) is a team of highly motivated engineering students that build an electric formula student race car. Just like Formula 1 the team builds a brand-new car each year to compete in multiple international competitions during the race season. Formula Student is the largest international engineering and design competition in the world. The competition is characterized by combustion vehicles, electric vehicles and since recently also autonomous vehicles. Formula Electric Belgium strives towards innovations and the raw performance of technologies. It is for this reason that the team will focus on the autonomous/electric race cars. Research and development applications will be made by postgraduate students in collaboration with thesis students from the KU Leuven and bachelor students from Thomas More.

Thesis description:

A very important part of every project is testing. Therefore it is necessary to know if your systems are working and what they are doing at this moment. The telemetry system of the car makes you able to do this. It has to send the data of all sensors on the car and data coming from the driverless algorithms to a remote laptop/phone.

Thesis objective:

Find a correct wireless protocol that has enough range and enough bandwidth available for all data of the sensors and the driverless algorithms (from ROS). Preferably, there should also be enough bandwidth to send some image data but if this is not possible while having the required range, a secondary protocol with a lower range dedicated to these more bandwidth-heavy data types can be used as well. This data also has to be logged locally on the car. The sent data has to be visualized in a clean and intuitive application running on a remote laptop or phone.

Profile:

- Team player
- Low-level software (mainly C)
- Knowledge of wireless protocols
- Experience with web applications/UI-design (NodeJS, javascript,...)

What do you gain?

- A unique engineering- and team experience where hard work and team atmosphere are central.
- Work with innovative technologies in a realistic environment/application.
- Create added value for your curriculum and the team

Are you interested? Please send your resume with accompanying motivation to:

recruitment@formulaelectric.be

Diestsesteenweg 692, 3010 Kessel-Lo