# Sensor fusion of the perception pipeline of a Formula Student 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:

Formula Electric Belgium (**FEB**) is working on it's first driverless car. A very important step in making a driverless car is perception. At competitions, the car will need to perceive its environment with high accuracy to make sure that it can finish all events without a problem. All the tracks of the dynamic events are marked by cones. Currently we are using a Lidar sensor and 2 cameras to detect them but both sensors determine the positions of the cones separately.

## Thesis objective:

The objective of this thesis is to determine the position and color of cones with high accuracy by merging the data of both cameras and the Lidar sensor. By using the strengths of Lidar and camera technology accurate results should be acquired.

## Profile:

- C++
- Python
- Machine Learning
- Team player

## 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:
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