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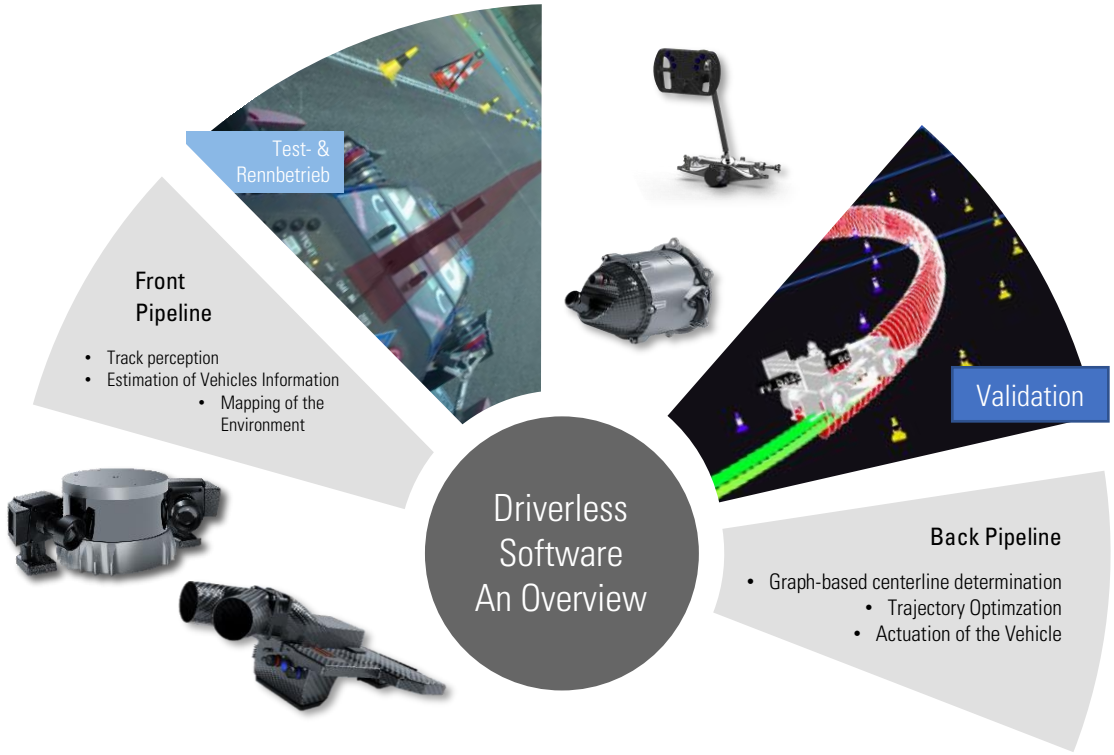
Driverless Software

Motion Planning & Controls



What is Motion Planning & Controls?

Do you want to be a part of a team that is pushing the limits of technology? Do you want to be part of a team that is pushing the limits of what's possible in the world of driverless cars? If so, then you are at the right place in our team.

We are looking for a skilled student to join our driverless team and help us develop the most advanced and reliable motion planning and control system possible. By doing so, you will play a crucial role in ensuring that our car can navigate through complex environments with efficiency, accuracy and precison. Using graph theory we are able to deduct a centerline which is then getting optimzied to reduce our laptime. In addition a velocity profile is being generated, giving the vehicle the oppurtunity to drive the highest speed at each point. Our control system is then a mix out of Control Theory and Vehicle Dynamics, to let the car drive the given geometry.

Our Software is running using the ROS framework on Ubuntu based systems. Besides developing and implementing new concepts, you should help to validate the code and test it afterwards on the car.

What will be your tasks?

- Design and implement advanced algorithms for motion planning and control, including trajectory generation, optimization and tracking
- Colloborate with other members of the team to integrate the system into our driverless car
- Conduct experiments and tests to validate the performance of the system
- Identify and troubleshoot any issues that arise during testing and development
- Manufacturing of our car

What are our requirements for you?

- Motivation & Teamoriented
- Enrolled in a field near to Computer Science or Robotics
- Good programming skills in C++, python or other Object-Oriented languages
- Willingness to join the weekly meetings
- Experience with ROS are benefical
- Ability to use Ubuntu in a Dual-Boot system
- Knowledge about Control Theory or Graph Theory are beneficial
- Good communication and problem-solving skills

One Goal.
One Team.

Would you also like to accompany your component from CAD to the race track? Apply on our homepage!

www.ecurie-aix.de/bewerbung

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