

Partner:
 Chair of Robotics,
 Artificial Intelligence
 and Embedded Systems

Navigation and Task Planning for an Autonomous Trash Picking Robot

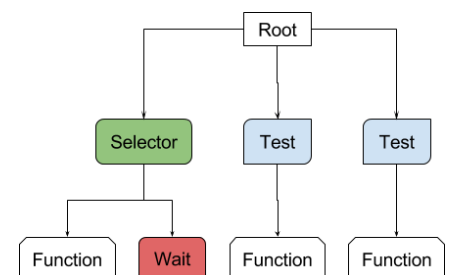
IDP Informatics

Bachelor's Thesis

Master's Thesis

Angsa revolutionizes the removal of trash on grass and gravel: Individual objects are detected by an artificial intelligence and removed by the autonomous robot.

The goal of this project is to enable the robot to efficiently navigate and operate on an user defined area. Your task will be to implement a task planner which dynamically lets the robot behave intelligently and efficiently.



Your Tasks

- Review navigation strategies, behavior trees and task planning concepts
- Development of custom navigation and task planning strategies via ROS action nodes
- Integration in the existing robot architecture
- Tests and evaluation in simulation and real-world scenarios



Your Profile

- You like solving complex problems!
- Enthusiasm for mobile and intelligent robots
- Experience with ROS / ROS2
- Good Python and C++ skills
- Team spirit and good communication skills
- Enrolled in Robotics, Informatics or similar



What We Offer

- **Startup culture:** Team events, flat hierarchies, agile methods and flexible working hours
- **Real-world impact:** Your modules are used in pilot projects with customers.
- **Responsibility and leadership:** Good work and ownership are rewarded at Angsa: You can play a decisive role in shaping your role in the team.
- **Workplace & Equipment:** A workplace with desk for you in our office and workshop in the TUM Incubator, access to the Makerspace, free coffee & snacks.

Sounds Interesting?

Send us an e-mail with a short description of your skills and motivation. If you have questions about the job or about us, just call us or come by our office in Garching.

Not the right topic yet? Have a look at our other open projects:
angsa-robotics.com/students

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