

Partner:
 Chair of Robotics,
 Artificial Intelligence
 and Embedded Systems

Deep Learning Obstacle Detection for an Autonomous Robot

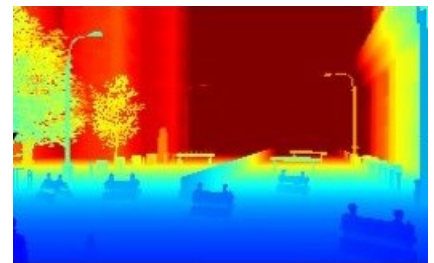
IDP Informatics

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 segment the area in front of it in drivable/not drivable terrain and to detect different kind of obstacles. For this purpose, a special neural network architecture should be developed and trained on real world data.



Your Tasks

- Review literature regarding autonomous systems and promising neural architectures
- Development of a tailored detection and ground segmentation approach
- Data collection and training
- Integration in the existing robot architecture
- Tests and evaluation in real-world scenarios



Your Profile

- Enthusiasm for mobile and intelligent robots
- Experience with Deep Learning, Semantic Segmentation and Object Detection
- Experience with PyTorch or Keras/Tensorflow
- Good Python 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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