

SETLabs Research GmbH is specialized in developing software-intensive systems and innovative domain-open solutions by bringing software, simulation and the respective HW/SW integration together. This results in the development of application-oriented solutions that are used in the automotive or rail domain and will be further extended to robotics, logistics, energy and healthcare. Our vision is to advance domain-open Software Enabled Technologies. SETLabs represents a subsidiary of VIRTUAL VEHICLE, an internationally leading research organization.

We are also happy to receive applications for WORKING STUDENT / INTERNSHIP.

## Master Thesis / Working Student (m/f/d)

### Your Tasks

- For master thesis, with details depending on the selected topic:
  - Research and analysis of state of the art.
  - Development of a concept/design for implementation.
  - Implementation using suitable programming languages and tools.
  - Verification and validation of the implementation.
  - Regular discussion and presentation of your progress.
- As Working Student /Intern the focus lies in the support with implementation and programming.

### Your Profile

- Student currently enrolled in MSc. Informatics, Robotics, Electrical Engineering or similar with some experience at student level in Computer Vision and Deep Learning.
- Ideally basic knowledge in perception for Autonomous Driving, previous work with automotive datasets like KITTI, Waymo or nuScenes.
- Enthusiasm to do research in the area of object detection based on Deep Learning.
- Required: Solid Python and PyTorch programming skills. Good to know: ROS and Docker.
- Possible topics for a master thesis are:
  - "Accurate detection of pedestrians in long range and low-resolution conditions of sensors".
  - "Explainable AI argumentation in the context of perception and sensor fusion with Deep Learning".
  - "Development of sensor fusion algorithms with focus on robustness of the neural networks, e.g. adversarial attacks, out-of-distribution samples".
  - "Implementation of synthetic datasets and semi-supervised labelling".
  - "Combination of data-driven (neural networks) with classical methods (Kalman Filter) for Object Detection and Tracking".
- For WORKING STUDENT applicants:
  - Basics of Computer Vision and Deep Learning.
  - Required: Solid Python and basic PyTorch programming skills. Good to know: ROS and Docker.

### What's in it for you

- Paid Master Thesis.
- Possibility for a student employment.
- Collaboration and contribution in an engaged, dynamic team.
- Challenging activities in a renowned international network.
- Contractually secured home office models and flexible time management.
- Mentoring programme for new employees'.
- Personal and professional development opportunities on any career level.
- Flat hierarchies and freedom for taking responsibility and own ideas.
- Participation in scientific conferences possible.
- Team building and company events.

**APPLY NOW and JOIN OUR TEAM**



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