

Bachelor Thesis

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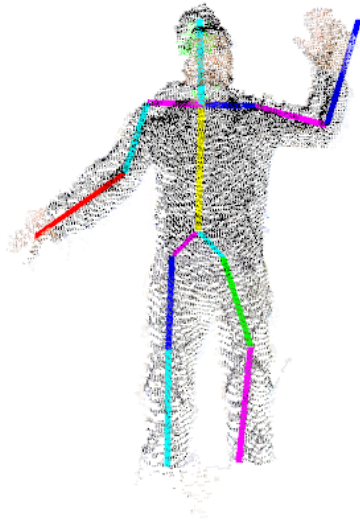


Figure 1: Human Pose estimation with LiDAR sensors. [01]

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Rel. Resources

Related Survey: 3D Object Detection for Autonomous Driving A Review and New Outlooks

Related Reference [01]: Real-Time Human Pose Estimation from Body-Scanned Point Clouds

Perception of Human Pose with LiDAR Sensors

Description

- The Intelligent Vehicles (IV)-Lab is looking for a **Bachelor Student (m/f/d)** to support research in the field of autonomous driving starting in the coming winter semester.
- Further information you find here: <https://iv.ee.hm.edu/>

Human Pose Estimation Using LiDARs

- Exploration of the principles of Light Detection and Ranging (LiDAR) technology and its applications in computer vision.
- Investigation of existing methods for human pose estimation and the challenges posed by the use of LiDAR data. 1
- Detailed evaluation of the accuracy, robustness, and real-time capabilities of LiDAR-based pose estimation techniques.
- **Goal:** Achieve a human pose estimation while only using LiDAR and compare the results to camera pose estimation.
- **Optional Extension:** Integration of the developed pose estimation algorithm into a real-time monitoring system for enhanced safety in urban environments.

Your Profile

- Willingness to learn and interest in the topic of autonomous driving
- Ability to work independently, conscientiously, and accurately
- Previous experience with Python is required
- Previous experiences with Linux, Bash, and git are a plus

What we offer

- Gaining first experiences in one of the most promising technical fields of modern times
- Access to high-end GPU cluster for training
- Access to workstation with GPU for development
- Supervision and close cooperation with PhD candidate

Does this appeal to you? Are you interested in the field of autonomous driving? Then reach out to us via mail and send a short introduction, your current grade report, and a cv with a photo.