

At the Institute for Autonomous Systems Technology, Department of Aerospace Engineering, University of the Bundeswehr Munich, we are offering a position as a

**Research Assistant / PhD Student**  
**Topic: Surface Classification / Vegetation Detection**  
full-time, civilian, salaried according to TvöD 13.

We have been working in the field of autonomous driving for over 30 years and were pioneers in the visual guidance of autonomous road vehicles with our 4D approach. Using our current research platforms (see photos below), we successfully participated in various international competitions (Urban Challenge 2007, European Land Robot Trials). The driving force of our success is the commitment and team spirit of about 15 PhD Students.

Within the scope of an ongoing, long-term research project we are working on surface classification and vegetation detection for navigating within natural off-road environments. When driving on forest trails, vegetation, such as tall grass, is often perceived as an obstacle, even though it is passable terrain for our vehicle. The goal of this project is to develop a reliable method for recognizing vegetation and classifying its navigability. For this, a variety of sensors are available: from high-precision INS and cameras of various spectral ranges (RGB, NIR, FIR) to high-resolution 3D laser scanners.

For this exciting topic, we are looking for you to reinforce our young team.

**Prerequisites for employment:**

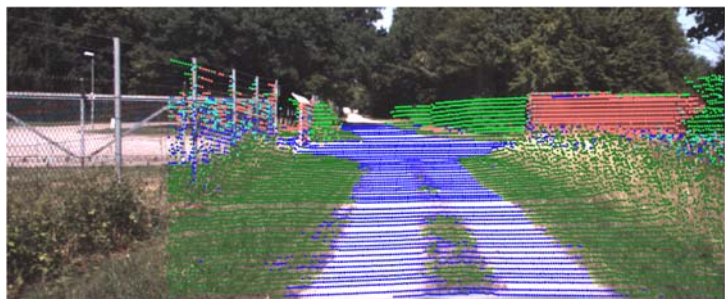
- Above-average academic degree in the field of
  - computer science, e.g., with a focus on robotics, AI or computer vision
  - electric engineering, e.g., with a focus on robotics, signal processing or computer vision
  - or in a comparable field of study
- Knowledge or interest in at least one of the following areas
  - Sensor data fusion
  - Computer vision
  - Machine learning
- Programming skills are required (C or C++)
- Experience with ROS, OpenCV or PCL is beneficial
- Enthusiasm for engineering and experimental work on real vehicles
- Willingness to participate in teaching

Suitable candidates will have the opportunity to obtain a PhD as part of their work. Applicants who already have a doctorate cannot be considered.

**Please send your complete application including a CV (in a single PDF file) to:**

Univ.-Prof. Dr.-Ing. Hans-Joachim Wünsche  
Institut für Technik Autonomer Systeme  
Universität der Bundeswehr München  
D-85577 Neubiberg, Germany  
E-Mail: [joe.wuensche@unibw.de](mailto:joe.wuensche@unibw.de)

Further information is available at [www.unibw.de/tas](http://www.unibw.de/tas) and [www.youtube.com/user/unibwbtas](http://www.youtube.com/user/unibwbtas)



The University of the Bundeswehr Munich offers trimester-based intense degree programs in small groups, in which (also civilian) students can complete a state-approved Master's within four years. According to Humboldt's ideal, it is not only a teaching but also a researching university, whose professors, as at other German universities, are free to choose their research topics. As a campus university with very good financial and technical equipment, excellent sports facilities as well as its own daycare center and kindergarten, it offers optimal prerequisites for efficient research.

The University of the Bundeswehr Munich aims to increase the ratio of female scientists. Women are therefore explicitly invited to apply. Disabled applicants with the same level of qualification will be given special consideration.