

# Oliver Lemke

M.Sc. Computer Science | ETH Zurich

Fastlane Scholar | BMW Group

Research Intern | Boston Dynamics AI Institute



## About me

Highly motivated, and dedicated graduate student looking to enroll as a PhD student in 2025. I focus on Machine Intelligence and Computer Vision, with special emphasis on 3D Vision and Autonomous Cars. Excellent organization, communication, and coordination skills acquired through a variety of extra-curricular activities and volunteering experience. Able to effectively self-manage during independent projects.

## Details

2000-02-05  
 lemke.oliver@icloud.com  
 Zurich, Switzerland  
 Oliver Lemke  
 oliver-lemke.github.io/

## Languages

German - Native Language  
 English - C2 Proficiency

## WORK EXPERIENCE

10/24-Now



**Research Intern**

Zurich, Switzerland

**Boston Dynamics AI Institute**

Research intern working on robotic scene understanding and reconstruction under Alexander Liniger and Marco Hutter.

09/23-03/24



**Research Assistant**

Zurich, Switzerland

**ETH Zurich**

Research assistant in the *Computer Vision and Geometry Group* working on modern machine perception models and robotics. Supervised by Francis Engelmann, Hermann Blum, and Marc Pollefeys. Resulted in the publication of *Spot-Compose*.

10/22-Now



**Scholarship Holder (Fastlane)**

Munich, Germany

**BMW Group**

Gained practical experience in various departments. Organization of and participation in workshops and talks on technological and professional development.

- 12/22 - 03/23: Intelligent Personal Assistant Group
- 04/24 - 09/24: Perception and Prediction Research Group  
Resulted in *Spatial-MQFormer*.

## EDUCATION

09/22-Now



**M.Sc. Computer Science**

Zurich, Switzerland

**ETH Zurich**

**Current Grade:** 5.7, top 10% of students

**Major:** Machine Intelligence

**Excerpt of classes:** Computer Vision, 3D Vision, Machine Perception, CV for Autonomous Cars, Deep Learning

09/19-08/22



**B.Sc. Computer Science**

Munich, Germany

**Technical University of Munich**

**Final Grade:** 1.2 (high distinction), top 2% of students

**Focus:** Machine Learning and Computer Vision

**Thesis:** Comparison of Vision-based State Representation Learning Algorithms for Reinforcement Learning of Robotic Reaching Tasks (Grade: 1.0)

## SCIENTIFIC WORK

**Paper**

2024

**Spot-Compose: A Framework for Open-Vocabulary Object Retrieval and Drawer Manipulation in Point Clouds.**

Oliver Lemke, Zuria Bauer, René Zurbrügg, Marc Pollefeys, Francis Engelmann, Hermann Blum. *ICRA 2024 Workshops*.

**Best Paper Award**

also demo'd at *3DV Conference (2024)* in Davos, Switzerland

**Paper**

2024

**Spatial-MQFormer: Spatially Sensitive Data-Retrieval for Automotive Contexts.**

Oliver Lemke, Thomas Stauner, Naveen Nagaraja. (*under submission*)

**Paper**

2024

**Entropy Aware Message Passing in Graph Neural Networks.**

Philipp Nazari\*, Oliver Lemke\*, Davide Guidobene\*, Artiom Gesp\*. *arXiv preprint arXiv:2403.04636*

**Bachelor Thesis**

2022

**Comparison of Vision-based State Representation Learning Algorithms for Reinforcement Learning of Robotic Reaching Tasks.** Oliver Lemke, Josip Josifovski, Alois Knoll

## Soft Skills and Strengths

Analytical Thinking

Highly Organized

Efficient

Hard Working

Excellent Communication Skills

Disciplined

Dependable

Reliable

## Other Interests

- Gym 🏋️
- Volleyball 🏐
- PC Building 🔧
- Reading 📖
- Hiking 🏃

## HONORS AND AWARDS

### best.in.tum

best.in.tum is a special program by the TUM Department of Informatics that promotes the **top 2%** of all Informatics students based on academic results. It is designed to confront the best students with open and especially difficult issues in Informatics, while opening up opportunities for discussion and research.

### Best Paper Award

Awarded for the paper "Spot-Compose: A Framework for Open-Vocabulary Object Retrieval and Drawer Manipulation in Point Clouds" in the Mobile Manipulation Workshop at ICRA.

## EXTRA-CURRICULAR ACTIVITIES

2022

### Summer School

📍 Sarntal, Italy

#### Technical University of Munich

**Topic:** Deep Learning in Image and Video Processing  
Summer School for the introduction of particularly motivated and gifted students to advanced fields of research. Worked on autonomously steering a toy car with video input.

09/15-06/18

### Max Born Academy

📍 Germering, Germany

#### Max-Born-Gymnasium Germering

Extra-curricular lectures, workshops, and excursions in a variety of technical, societal, and cultural fields of study for the development of particularly gifted students.

## OTHER ACTIVITIES

09/18-07/19

### Work and Travel

📍 New Zealand

#### Various Companies

Lived, worked, and travelled in New Zealand for 9 months with a Work-and-Travel visa. A trip, which I undertook and financed alone, by working as a receptionist, farm hand, or waiter (among other jobs).

## REFERENCES

**Marc Pollefeys**

### Supervisor & Co-Author Spot-Compose

Professor, ETH Zürich

✉ marc.pollefeys@inf.ethz.ch

**Francis Englemann**

### Supervisor & Co-Author Spot-Compose

Postdoctoral Researcher, Stanford University

*Formerly: Postdoctoral Researcher, ETH Zurich, Google*

✉ englemann@cs.stanford.edu

**Hermann Blum**

### Supervisor & Co-Author Spot-Compose

Junior Professor, Lamarr Institute / University of Bonn

*Formerly: Postdoctoral Researcher, ETH Zurich*

✉ blumh@uni-bonn.de

**Thomas Stauner**

### Supervisor & Co-Author Spatial-MQFormer

Head of Predevelopment: Perception and Prediction, BMW

✉ Thomas.Stauner@bmw.de