Jonas Dimitri Bohn

MSc Robotics, Systems and Control, ETH Zurich,
jonas@bohn.ch — +41 79 129 90 26 — LinkedIn — GitHub

I am passionate about addressing computer vision challenges using deep learning and applying these algorithms to tackle real-world problems. I embrace challenges, am focused on finding solutions, highly organized, and work well in team settings.

Education

ETH Zurich, D-MAVT **Sept. 2021 - Dec. 2024**
Master of Science in Robotics, Systems and Control
Focusing on vision-based learning, path-planning and general applications of deep learning methods

ETH Zurich, D-MAVT **Sept. 2017 - Sept. 2021**
Bachelor of Science in Mechanical Engineering
Bachelor Thesis: Automated vessel detection for fetal surgery (Grade: 6/6)

Employment

Digitec Galaxus AG **Jun. 2021 - Mar. 2024**
Junior Shop Structure Manager

I evaluated and optimized the customer journey of the biggest e-commerce shop in Switzerland using tools such as Google Analytics, Sistrix, SQL databases and Tableau reporting. [Reference Letter (de)]

Digitec Galaxus AG **Mar. 2020 - Jun. 2021**
Customer Service Representative

I effectively managed and addressed customer inquiries via email, ensuring prompt and satisfactory responses working from home during the pandemic.

Digitec Galaxus AG **Aug. 2016 - Jul. 2017**
Data Entry Clerk Marketplace

I sourced product data to ensure high data quality. Additionally, I was responsible for developing internal processes for the data processing of new marketplace suppliers and representing my team in company meetings. [Reference Letter (de)]

MSc Core Courses

Computer Vision

- → Computer Vision
- → Vision Algorithms for Mobile Robotics
- → 3D Vision
- → Machine Perception

Robotics

- → Autonomous Mobile Robots
- → Planning and Decision Making for Autonomous Robots

Selected Projects

Master Thesis (Grade: 6/6) Centre for Digital Health Interventions
Title: Open-source Smart Inhaler System for Adherence Monitoring in Low- and Middle-Income Countries Using Machine Learning D-MTEC ETHZ
Supervision: Patrick Langer, Prof. E. Fleisch **Jun. 2024 - Dec. 2024**

- → 3D Design of Smart Inhaler attachement
- → App development for clinical study creating and integrating different packages into CLAID environement.
- → Coordination and implementation of clinical study at the UKBB.
- → Using collected data to test different ML algorithms for usage prediction
- → Currently preparing scientific paper for UbiComp/ ISWC 2025

Semester Thesis (Grade: 5.75/6) Center for Project-Based Learning
Title: Clear as Day: Low-Power Object Detection for Challenging Conditions D-ITET ETHZ
Supervision: Prof. L. Benini, Dr. Tommaso Polonelli, Hanna Müller **Oct. 2023 - Feb. 2024**

- → Object Detection on rescource-constrained devices
- → Deep Sensor Fusion using depth and infrared data
- → Accepted for EMEA 2024 [Abstract]

3D Vision Project (Grade: 5.75/6) [Github, Report] Computer Vision & Geometry Group
Title: Monocular Pose Estimation for Human-Robot Co-Localization D-INFK ETHZ
Supervision: Dr. Hermann Blum, Weicai Ye (ZJU) **Feb. 2023 - Jun. 2023**

- → Creating a synthetic data pipeline using BlenderProc2
- → Adapting OnePose++ to train a SPOT pose estimation model

Projects in PDM4AR (Grade 5.75/6) [Course Page] Institute for Dynamic Systems and Control
Eight exercises teaching concepts of the course in Python D-MAVT ETHZ
Professor: Prof. Emilio Frazzoli **Sep. 2022 - Feb. 2023**

- → Implementing Path Planning Algorithms (e.g. A*, Dijkstra, RRT)
- → Using Model Predictive Control to guide cars to a goal state

Bachelor Thesis (Grade: 6/6) Multi-Scale Robotics Lab
Title: Automated Vessel Detection for Fetal Surgery D-MAVT ETHZ
Supervision: Prof. B. Nelson, Dr. Jonas Lussi, Dr. Simone Gervasoni **Sept. 2020 - Feb. 2021**

- → Creation of a new placental dataset for segmentation
- → Implementation of multiple state of the art segmentation networks using Keras (e.g. U-Net)
- → Fine tuning the network and training parameters for best performance

Studies on Mechatronics (Grade: 6/6) [Reference Letter] Robotic Systems Lab
Title: Study on a Robotic Arm for Sampling Lunar Regolith D-MAVT ETHZ
Supervision: Prof. M. Hutter, Dr. Hendrik Kolvenbach **Mar. 2020 - Jul. 2020**

- → Development of a robotic operation concept for sampling lunar regolith
- → Presentation of my work to R&D team of Airbus

Skills

Programming: Python, Dart, Java
Tools: Git, Jira, Docker, Latex
Languages: Swiss-German (Native), English, French