Jonas Dimitri Bohn

MSc Robotics, Systems and Control, ETH Zurich,

jonas@bohn.ch — +41 79 129 90 26 — bohnjonas.github.io

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
   Master Thesis: Open Source AI-enabled Smart Inhaler for Asthmatic Patients **(Grade: 6/6)**
ETH Zurich, D-MAVT   **Sept. 2017 - Sept. 2022**
Bachelor of Science in Mechanical Engineering
   Bachelor Thesis: Automated vessel detection for fetal surgery **(Grade: 6/6)**

Employment

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

→ Optimized the customer journey of Switzerland's largest e-commerce store using Google Analytics, SQL, and Tableau, collaborating with cross-functional stakeholders.
→ Developed data-driven insights to enhance user experience and increase engagement.

[Employment Reference (de)]

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

→ Managed high-volume customer inquiries, ensuring a 95% satisfaction rate.
→ Trained existing employees in a new area of expertise, ensuring effective knowledge transfer and smooth adaptation to the new subject matter.

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

→ Developed and optimized internal processes for the data processing of new marketplace suppliers, enhancing operational efficiency.
→ Represented the team in cross-functional company meetings, effectively communicating progress, challenges, and solutions.

[Employment Reference (de)]

Selected Projects

Open Source AI-enabled Smart Inhaler [Project Page]   Master Thesis
Supervision: Patrick Langer, Prof. E. Fleisch   **Grade: 6/6**

→ Developed 3D-printed inhaler attachment & mobile app for clinical trials.
→ Coordinated and implemented a clinical study at UKBB.
→ Collected & analyzed real-world patient data to evaluate ML algorithms for usage prediction.
→ Research under review for publication at UbiComp/ ISWC 2025

Low-Power Object Detection for Challenging Conditions [Project Page]   Semester Project
Supervision: Hanna Müller, Dr. Tommaso Polonelli, Prof. L. Benini   **Grade: 5.75/6**

- → Optimized deep sensor fusion (depth + infrared) for embedded AI applications.
- → Accepted for demo at EMEA 2024 [Abstract]

Monocular Pose Estimation [Project Page]   3D Vision Project
Supervision: Dr. Hermann Blum, Weicai Ye   **Grade: 5.75/6**

- → Developed a monocular pose-estimation algorithm to locate the Boston Dynamics Spot robot in a shared human-robot environment
- → Created a NeRF-based synthetic image pipeline to generate training data
- → Trained and deployed OnePose++ to estimate the robot's pose in real-world images

Planning and Decision Making for Autonomous Robots [Course Page]   Course Projects
Professor: Prof. E. Frazzoli   **Grade: 5.75/6**

- → Solving optimization problems implementing algorithms as A*, Dijkstra, RRT
- → Used Model Predictive Control (MPC) for autonomous vehicle guidance

Automated Vessel Detection for Fetal Surgery [Project Page]   Bachelor Thesis
Supervision: Dr. Jonas Lussi, Dr. Simone Gervasoni, Prof. B. Nelson   **Grade: 6/6**

- → Created a new placental dataset for vessel segmentation in fetal surgery
- → Implemented state-of-the-art segmentation networks using Keras (e.g., U-Net)
- → Fine-tuned models for optimal performance in medical imaging

Robotic Arm for Sampling Lunar Regolith [Project Page]   Studies on Mechatronics
Supervision: Dr. Hendrik Kolvenbach, Prof. M. Hutter   **Grade: 6/6**

- → Designed and developed a robotic arm concept for sampling lunar regolith
- → Presented findings to the R&D team at Airbus

Skills

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

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