Michel Zeller

Software Engineer — Zurich, Switzerland

About

Software Engineer with strong foundations in 3D computer vision & ML, eager to apply versatile problem-solving skills to new domains and challenges.

- Engineered data processing and neural rendering pipelines at **Meshcapade**
- Developed production-ready CLI tools that replaced costly visualization software at **MeteoSwiss**
- Built full-stack solutions for **Logiblox**'s AI no-code platform
- MSc from **ETH Zurich** with 5+ years of Python development experience

Employment

meshcapade R&D **Oct. 2024 — Mar. 2025**
ML Engineer (Intern)

At meshcapade, I built a robust data pipeline to regress human + object poses from RGB video & optimize their relative position in a canonical space. This then served as input to the 3DGS-based training pipeline to efficiently (& explicitly) learn the scene's appearance models to gain a spatial understanding of the human-object interaction.

`Tech-Stack: Python, PyTorch, Rust, AWS`

LOGIBLOX AG **Apr. 2022 — Dec. 2023**
Software Engineer (Full-Stack)

I mainly researched and implemented software solutions, i.e. for the in-house graph compiler, the data-science or AI modules as well as the UI of the platform. [Reference Letter]

`Tech-Stack: Python, TypeScript, HTML/CSS, Angular, Flask, Firebase, SQL`

MeteoSwiss Dep. Analysis & Numerical Predictions **Sept. 2021 — Mar. 2022**
Software Engineer (Civil Service)

My main task at MeteoSwiss was developing CLI tools to visualise their global air-trajectory data using Python. Ultimately, my work replaced the previously used, pricey software and is still in production (code). Hereby I concluded my civil service duties. [Reference Letter]

`Tech-Stack: Python, Linux, Bash, Git`

Education

ETH Zurich, D-MAVT **Sept. 2022 — Sept. 2024**
Master of Science in Mechanical Engineering
Research-centred program with a focus on deep learning for computer vision and robotics
Final Thesis: Reconstructing Hand-Object Interactions in 3D from Monocular Video with 3DGS

ETH Zurich, D-MAVT **Sept. 2017 — Sept. 2021**
Bachelor of Science in Mechanical Engineering
Comprehensive program providing strong foundations in mathematics, physics, and engineering principles with a focus on Energy, Flows & Processes.
Final Thesis: Drone Tracking in Challenging Conditions

Selected Projects

These projects were implemented using PyTorch in Python, developed on remote Linux servers, and maintained with Git for version control/collaboration and Docker for containerization.

Understanding Human-Object Interactions in more Detail [Github, Report] meshcapade

- → Model human-object interactions in 3D using from monocular RGB
- → Neural Rendering with 3D Gaussian Splatting
- → build complex data processing pipeline to initialize Gaussian models

HOLD-GS: Reconstructing Hand-Object Interactions in 3D from Monocular Video using Gaussian Splatting [Github, Report] AIT

- → Model hand-object interactions in 3D using from monocular RGB
- → Extending HOLD with 3D Gaussian Splatting for real-time rendering

Adaptive Visual Pose Estimation for Multi-Robot Registration [Github, Report] CVG

- → Deep Learning in Computer Vision, Dense Tracking
- → Continual Learning & Adaptive Geometry for Pose Estimation

Monocular Pose Estimation for Human-Robot Co-Localization [Github, Report] CVG

- → Creating a modular synthetic data pipeline using BlenderProc2 which could subsequently be used in numerous other projects in the lab as well
- → Adapting OnePose++ to train a SPOT pose estimation model

Combining 3D Scene Reconstruction & Human Motion Capture [Github, Report] VLG

- → Human Motion Capture using EasyMocap; SMPL
- → Novel view synthesis from RGB videos
- → 3D Scene Reconstruction using Nerfstudio

Skills

Proficient	Python, PyTorch, Bash, Git, Linux, OpenCV, NumPy, SciPy, LaTeX
Moderate	VIM, Blender, Docker, Adobe CS, DaVinci Resolve
Prior Experience	C++, MATLAB, RUST, TypeScript, Julia, HTML/CSS, Angular, REST, SQL
Languages	Swiss-German (Native), English (C2), French (Read/Write)

Thank you for your time.