

Felix Taubner – Résumé

AI Research Scientist working on the intersection of 3D Computer Vision and Deep Learning

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EDUCATION

PhD in Computer Science, University of Toronto. <i>Supervised by David B. Lindell. Specializing in 4D generative models with a focus on digital human avatars.</i>	09/2024 — present Toronto, Canada
MSc in Robotics, Systems and Control, ETH Zurich. GPA: 5.96/6.00 <i>Supervised by Roland Siegwart. Focus: 3D computer vision, perception, and artificial intelligence</i>	09/2019 — 08/2022 Zurich, Switzerland
BSc in Mechanical Engineering, ETH Zurich. GPA: 5.72/6.00 <i>Focus: Robotics, control and computational methods</i>	09/2015 — 05/2019 Zurich, Switzerland

RESEARCH EXPERIENCE

PhD Student and Research Assistant @ University of Toronto <i>Supervised by David B. Lindell.</i>	05/2024 — present Toronto, Canada
<ul style="list-style-type: none">Generating controllable 4D human avatars from reference images using morphable multi-view diffusion models and deformable 3D Gaussian splatting. SOTA performance on single-image and few-image 4D head avatar reconstruction. Submitted to CVPR 2025.	
AI Research Scientist @ LG Electronics <i>Supervised by Jinmiao Huang and Kevin Ferreira.</i>	10/2022 — 02/2024 Toronto, Canada
<ul style="list-style-type: none">Developed a vision-transformer-based 3D face tracking pipeline that achieves 54% better motion capture performance and 8% better 3D reconstruction accuracy over SOTA. Published in CVPR 2024.Led a team of 4 researchers (after October 2023), responsible for aligning and planning research directions with HQ across various projects in generative AI for digital human animation.	
Visiting Graduate Student and Research Assistant @ University of Toronto <i>Supervised by Igor Gilitschenski.</i>	11/2021 — 09/2022 Toronto, Canada
<ul style="list-style-type: none">Master Thesis: developed a novel representation for event-based data for downstream deep learning tasks. Improved classification accuracy on the <i>N-Caltech101</i> dataset by 2.3% over SOTA.Explored visual odometry applications with event-based cameras using neural radiance fields (NeRFs).	
Graduate Student Research @ ETH Zurich <i>Supervised by Roland Siegwart.</i>	01/2020 — 08/2020 Zurich, Switzerland
<ul style="list-style-type: none">Semester Thesis: Created a place recognition pipeline that uses attention-based neural networks to cluster and describe 3D line segments obtained from RGB-D cameras. Published in 3DV 2020.	

OTHER EXPERIENCE

Robotics Intern @ Amazon Created a control algorithm for a fleet of autonomous ground vehicles using linear programming.	04/2021 — 10/2021 Vercelli, Italy
Perception Intern @ incon.ai Design and implementation of an AR assistant for sculptors using RGB-D cameras.	09/2020 — 04/2021 Zurich, Switzerland
Teaching Assistant @ ETH Zurich Taught classes on undergrad level for the subjects <i>Innovation Project, Dynamics</i> and <i>Thermodynamics</i> .	03/2017 — 09/2020 Zurich, Switzerland

PUBLICATIONS AND SUBMISSIONS

• Felix Taubner, Ruihang Zhang, Mathieu Tuli and David B. Lindell: “CAP4D: Creating Animatable 4D Portrait Avatars with Morphable Multi-View Diffusion Models”, <i>arXiv 2024</i>	12/2024
• Felix Taubner, Prashant Raina, Mathieu Tuli, Eu Wern Teh, Chul Lee and Jinmiao Huang: “3D Face Tracking from 2D Video through Iterative Dense UV to Image Flow”, <i>CVPR 2024</i>	06/2024
• Felix Taubner: “WARPS: Representing Asynchronous Event-based Data as Images of Warped Events”, <i>Master Thesis</i>	05/2022
• Felix Taubner, Florian Tschopp, Tonci Novkovic, Roland Siegwart and Fadri Furrer: “LCD – Line Clustering and Description for Place Recognition”, <i>3DV 2020</i>	11/2020

AWARDS

• Master Thesis Grant from the Zeno Karl Schindler Foundation (12'000 CHF) for academic merit.	03/2022
• Outstanding D-MAVT Bachelor Award for excellent grades in first year exams (2'000 CHF).	09/2016