PAUL **STRELI**

paulstreli.com | paulstreli | paulstreli | Paul Streli

EDUCATION

ETH Zürich, Zurich, Switzerland — *2020–2025*
Doctoral Researcher at the Department of Computer Science
Research on Computational Interaction, Machine Learning, and Computer Vision.
Advisor: Christian Holz | Committee: Marc Pollefeys, Gül Varol & Robert Wang

Imperial College London, London, UK — *2015–2019*
Master of Electrical and Electronic Engineering (EEE) | Ranked 1st out of 114 students — GPA: 4.0
Research on Hand Pose Recognition.
Advisors: Tae-Kyun Kim & Guillermo Garcia-Hernando

Albertus Magnus School, Vienna, Austria — *2007–2015*
School representative | Top of the class — GPA: 4.0

PROFESSIONAL EXPERIENCE

Meta Reality Labs, Zurich, Switzerland — *September 2025–Present*
Research Scientist, Human AI
Codec Labs team with Jie Shen, Vittorio Ferrari, Sam Johnson & Sofien Bouaziz

Meta Reality Labs, Redmond, USA — *September 2023–January 2024*
Research Scientist Intern, Machine Perception for Input and Interaction
XR Input team with Mark Richardson, Fadi Botros, Shugao Ma & Robert Wang

TikTok & ByteDance, London, UK — *December 2019–June 2020*
Research Intern at *ByteDance AI Lab*
Music Intelligence team with Ed Newton-Rex & Yuxuan Wang

TTTech Auto AG, Vienna, Austria — *April–September 2018*
Software Engineering Intern for Automated Driving Systems

ÖBB (Austrian Federal Railways), Vienna, Austria — *August–September 2017*
Project Management Intern for Predictive Maintenance

Schiebel, Vienna, Austria — *July–August 2016*
R&D Intern for Vertical Take-Off and Landing Unmanned Air Systems (UAS)

AWARDS & HONORS

Honorable mention award | ACM CHI for Continual Human-in-the-Loop Optimization — *2025*
Meta Research PhD Fellowship Winner — *2023*
Spark Award Top 20 nominee | ETH Zürich for TapType — *2023*
Meta Research PhD Fellowship Finalist — *2022*
Best Paper Award | ACM CHI for CapContact (top 1% of submissions) — *2021*
Best Demo Award | IEEE VR for TapID (jury's choice) — *2021*
Siemens Memorial Book Prize | Imperial | Top EEE student of final class list — *2019*
Head of Department's Prize | Imperial | Top EEE student in third year — *2018*
First Place Entrepreneurship Online Competition | Imperial Business School — *2018*
Silvanus P Thompson Prize | Imperial | Top EEE student second year — *2017*
Second Year Group Project Prize | Imperial | Best EEE group project — *2017*
Dennis Gabor Prize | Imperial | Top EEE student in first year — *2016*
Dean's list | Imperial — *2016/17/18/19*

PUBLICATIONS

21. Berken Utku Demirel, Galip Utku Akay, **Paul Streli**, Hatice Ozturkmen and Christian Holz. 2026. Smartwatch-based detection of loss of pulse. *PLOS ONE 2026*.
20. Matthias Jammot*, Bjoern Braun*, **Paul Streli**, Rafael Wampfler and Christian Holz. 2025. egoEMOTION: Egocentric Vision and Physiological Signals for Emotion and Personality Recognition in Real-World Tasks. In *Proceedings of NeurIPS (Datasets and Benchmarks) 2025*. **Equal contribution*
19. Andjela Ilic, Jiaxi Jiang, **Paul Streli**, Xintong Liu and Christian Holz. 2025. Human Motion Capture from Loose and Sparse Inertial Sensors with Garment-aware Diffusion Models. In *Proceedings of IJCAI 2025*.
18. Yiming Zhao*, Taein Kwon*, **Paul Streli***, Marc Pollefeys and Christian Holz. 2025. EgoPressure: A Dataset for Hand Pressure and Pose Estimation in Egocentric Vision. In *Proceedings of IEEE CVPR 2025*. **Highlight**. **Equal contribution*
17. Yi-Chi Liao, **Paul Streli**, Zhipeng Li, Christoph Gebhardt and Christian Holz. 2025. Continual Human-in-the-Loop Optimization. In *Proceedings of ACM CHI 2025*. **Honorable mention award**.
16. Dominik Hollidt, **Paul Streli**, Jiaxi Jiang, Yasaman Haghighi, Changlin Qian, Xintong Liu, and Christian Holz. 2024. EgoSim: An Egocentric Multi-view Simulator and Real Dataset for Body-worn Cameras during Motion and Activity. In *Proceedings of NeurIPS (Datasets and Benchmarks) 2024*.
15. Bjoern Braun, Daniel McDuff, Tadas Baltrusaitis, **Paul Streli**, Max Moebus, and Christian Holz. 2024. SympCam: Remote Optical Measurement of Sympathetic Arousal. In *Proceedings of IEEE-EMBS BHI 2024*.
14. **Paul Streli**, Mark Richardson, Fadi Botros, Shugao Ma, Robert Wang, and Christian Holz. 2024. TouchInsight: Uncertainty-aware Rapid Touch and Text Input for Mixed Reality from Egocentric Vision. In *Proceedings of ACM UIST 2024*.
13. Zhipeng Li, Christoph Gebhardt, Yves Inglin, Nicolas Steck, **Paul Streli**, and Christian Holz. 2024. SituationAdapt: Contextual UI Optimization in Mixed Reality with Situation Awareness via LLM Reasoning. In *Proceedings of ACM UIST 2024*.
12. Jiaxi Jiang, **Paul Streli**, Xuejing Luo, Christoph Gebhardt, and Christian Holz. 2024. MANIKIN: Biomechanically Accurate Neural Inverse Kinematics for Human Motion Estimation. In *Proceedings of ECCV 2024*.
11. Jiaxi Jiang, **Paul Streli**, Manuel Meier, and Christian Holz. 2024. EgoPoser: Robust Real-Time Egocentric Pose Estimation from Sparse and Intermittent Observations Everywhere. In *Proceedings of ECCV 2024*.
10. **Paul Streli**, Jiaxi Jiang, Juliete Rossie, and Christian Holz. 2023. Structured Light Speckle: Joint Ego-Centric Depth Estimation and Low-Latency Contact Detection via Remote Vibrometry. In *Proceedings of ACM UIST 2023*.
9. Huajian Qiu, **Paul Streli**, Tiffany Luong, Christoph Gebhardt, and Christian Holz. 2023. ViGather: Inclusive Virtual Conferencing with a Joint Experience Across Traditional Screen Devices and Mixed Reality Headsets. In *Proceedings of ACM MobileHCI 2023*.
8. Valentin Bieri*, **Paul Streli***, Berken Utku Demirel, and Christian Holz. 2023. BeliefPPG: Uncertainty-aware Heart Rate Estimation from PPG signals via Belief Propagation. In *Proceedings of UAI 2023*. **Equal contribution*
7. **Paul Streli**, Rayan Armani, Yi Fei Cheng, and Christian Holz. 2023. HOOV: Hand Out-Of-View Tracking for Proprioceptive Interaction using Inertial Sensing. In *Proceedings of ACM CHI 2023*.
6. Yi Fei Cheng, Tiffany Luong, Andreas Fender, **Paul Streli**, and Christian Holz. 2022. ComforTable User Interfaces: Surfaces Reduce Input Error, Time, and Exertion for Tabletop and Mid-air User Interfaces. In *Proceedings of IEEE ISMAR 2022*.
5. Jiaxi Jiang, **Paul Streli**, Huajian Qiu, Andreas Fender, Larissa Laich, Patrick Snape, and Christian Holz. 2022. AvatarPoser: Articulated Full-Body Pose Tracking from Sparse Motion Sensing. In *Proceedings of ECCV 2022*.
4. **Paul Streli**, Jiaxi Jiang, Andreas Fender, Manuel Meier, Hugo Romat, and Christian Holz. 2022. TapType: Ten-finger text entry on everyday surfaces via Bayesian inference. In *Proceedings of ACM CHI 2022*.
3. Karan Ahuja, **Paul Streli**, and Christian Holz. 2021. TouchPose: Hand Pose Prediction, Depth Estimation, and Touch Classification from Capacitive Images. In *Proceedings of ACM UIST 2021*, pp. 997–1009.

2. **Paul Streli** and Christian Holz. 2021. CapContact: Super-resolution Contact Areas from Capacitive Touchscreens. In *Proceedings of ACM CHI 2021*. Article 289, 1–14. **Best paper award**.

1. Manuel Meier, **Paul Streli**, Andreas Fender, and Christian Holz. 2021. TapID: Rapid Touch Interaction in Virtual Reality using Wearable Sensing. In *Proceedings of IEEE VR 2021*, pp. 519–528.

DEMONSTRATIONS

5. **Paul Streli**, Mark Richardson, Fadi Botros, Shugao Ma, Robert Wang, and Christian Holz. 2024. Demonstrating Uncertainty-aware Rapid Touch and Text Input for Virtual Reality from Egocentric Vision. *ACM UIST 2024*.

4. Jiaxi Jiang, **Paul Streli**, Huajian Qiu, Andreas Fender, Larissa Laich, Patrick Snape, and Christian Holz. 2022. Demonstrating AvatarPoser for Full-Body Pose Tracking from Sparse Motion Sensing. *ECCV 2022*.

3. **Paul Streli**, Jiaxi Jiang, Andreas Fender, Manuel Meier, Hugo Romat, and Christian Holz. 2022. Demonstrating TapType for mobile ten-finger text entry anywhere. In *Extended Abstracts of ACM CHI 2022*.

2. Manuel Meier, **Paul Streli**, Andreas Fender, and Christian Holz. 2021. Demonstrating TapID for Rapid Touch Interaction on Surfaces in Virtual Reality for Productivity Scenarios. In *Extended Abstracts of ACM CHI 2021*.

1. Manuel Meier, **Paul Streli**, Andreas Fender, and Christian Holz. 2021. Demonstrating the Use of Rapid Touch Interaction in Virtual Reality for Prolonged Interaction in Productivity Scenarios. In *Abstracts and Workshops of IEEE VR 2021*. **Best demonstration award** (jury's choice).

ACADEMIC SERVICE

Program Committee (Associate Chair), ACM CHI — Interacting with Devices *2023/25/26*

Session Chair, ACM UIST — AI as Copilot *2024*

Session Chair, ACM CHI — UI Design & Development *2022*

Student Volunteer, ACM CHI *2022*

Subcommittee chair assistant, ACM CHI (Interacting with Devices) *2021/22*

External reviewer (year★ = Outstanding Reviewer)

ACM CHI	*2021/22/23★/24★/25★/26*
ACM UIST	*2021★/22★/23/24★/25★/26*
IEEE CVPR	*2024/25★/26*
IEEE ICCV	*2023/25*
IEEE ECCV	*2026★*
NeurIPS	*2026*
IEEE VR	*2022*
IEEE ISMAR	*2022*
ACM IMWUT	*2022★/23*
ACM ISS	*2021/22*
ACM MobileHCI	*2021*

TEACHING EXPERIENCE

Guest Lecturer, *Mixed Reality*, ETH Zürich *Fall 2024*

Graduate Teaching Assistant, *Mobile Health and Activity Monitoring*, ETH Zürich *Spring 2022/23/25*

Graduate Teaching Assistant, *Probabilistic Artificial Intelligence*, ETH Zürich *Fall 2021/22/24*

Graduate Teaching Assistant, *Ubiquitous Computing*, ETH Zürich *Spring 2021*

Teaching Assistant, *Introduction to Computer Architecture and Systems*, Imperial *Fall 2018*

INVITED TALKS

Google, AR team, Host: David Kim *2022*

Microsoft Research, Swiss Joint Research Centre Workshop — Computer Vision *2021*

STUDENTS MENTORED

Stephan Büeler, Bachelor, *Computer Science, ETH Zürich* *2025*
Andjela Ilic, Master, *Electrical Engineering, ETH Zürich* *2024*
Zhengxu Li, Master, *Data Science, ETH Zürich* *2024*
Haoyu Cen, Master, *Robotics, Systems and Control, ETH Zürich* *2024*
Yifei Han, Bachelor, *Computer Science, ETH Zürich* *2024*
Xintong Liu, Master, *Robotics, Systems and Control, ETH Zürich* *2023*
Yves Inglin, Bachelor, *Computer Science, ETH Zürich* *2023*
Jaro Meyer, Bachelor, *Computer Science, ETH Zürich* *2023*
Yiming Zhao, Master, *Electrical Engineering, ETH Zürich* *2023*
Shubham Kumar, Master, *Computer Science, ETH Zürich* *2022*
Seraina Saurenmann, Master, *Robotics, Systems and Control, ETH Zürich* *2022*
Bowen Wang, Master, *Electrical Engineering, ETH Zürich* *2022*
Stefano Kron, Master, *Biomedical Engineering, ETH Zürich* *2022*
Fabio Bazzi, Master, *Robotics, Systems and Control, ETH Zürich* *2022*
Alexander Eichhorn, Bachelor, *Computer Science, ETH Zürich* *2022*
Simon Boehi, Bachelor, *Computer Science, ETH Zürich* *2022*
Michael Thomas Schlegel, Bachelor, *Computer Science, ETH Zürich* *2022*
Valentin Bieri, Bachelor, *Computer Science, ETH Zürich* *2022*
Francois Pailleau, Master, *Robotics, Systems and Control, ETH Zürich* *2021*
Huajian Qiu, Master, *Computational Science and Engineering, EPFL* *2021*
Daniel Gstöhl, Master, *Computer Science, ETH Zürich* *2021*
Boris Bernegger, Bachelor, *Computer Science, ETH Zürich* *2021*
Jannik Gartmann, Bachelor, *Computer Science, ETH Zürich* *2021*

SELECTED PRESS COVERAGE

MIXED Reality News | Researchers demonstrate fast typing on any surfaces with Quest 3. *2024*
UploadVR | Meta & ETH Zurich Researchers Say They've Solved Turning Any Surface Into A Keyboard. *2024*
Hackaday | TapType: AI-Assisted Hand Motion Tracking Using Only Accelerometers. *2022*
Computerworld | Präzise Touchscreens dank KI. *2021*
TechXplore | Improving touch screens with AI. *2021*
Techstory | AI for Improving Touch Screens. *2021*
newelectronics | Precise touch screens thanks to AI. *2021*
TechXplore | Virtual reality at your fingertips. *2021*
Hackaday | Bone Vibration brings Typing into VR. *2021*
Kronen Zeitung | Handgelenk-Sensor macht jede Fläche zur Tastatur. *2021*
Eletimes | Virtual Reality (VR) at the Tip of Your Fingers. *2021*
Blick | Virtuelle Realität: Dank Handgelenk-Sensor jede denkbare Fläche als Tastatur benutzen. *2021*
New Atlas | VR wristband tracks finger-taps via vibrating wrist bones. *2021*