

PAUL STRELI

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EDUCATION

ETH Zürich , Zurich, Switzerland PhD student at the Department of Computer Science Research on Computational Interaction and Mixed Reality. Advisor: Christian Holz	<i>2020–Present</i>
Imperial College London , London, UK Master of Electrical and Electronic Engineering (EEE) Top of class (1/114) Research on Hand Pose Recognition. Advisors: Tae-Kyun Kim & Guillermo Garcia-Hernando	<i>2015–2019</i> GPA: 4.0
Albertus Magnus School , Vienna, Austria School representative Top of the class	<i>2007–2015</i> GPA: 4.0

PROFESSIONAL EXPERIENCE

Meta Reality Labs , Redmond, USA Research Scientist Intern, Machine Perception for Input and Interaction XR Input team with Mark Richardson, Shugao Ma & Robert Wang	<i>September 2023–January 2024</i>
TikTok & ByteDance , London, UK Research Intern at <i>ByteDance AI Lab</i> Music Intelligence team with Ed Newton-Rex & Yuxuan Wang	<i>December 2019–June 2020</i>
TTTech Auto AG , Vienna, Austria Software Engineering Intern for Automated Driving Systems	<i>April–September 2018</i>
ÖBB (Austrian Federal Railways) , Vienna, Austria Project Management Intern for Predictive Maintenance	<i>August–September 2017</i>
Schiebel , Vienna, Austria R&D Intern for Vertical Take-Off and Landing Unmanned Air Systems (UAS)	<i>July–August 2016</i>

AWARDS & HONORS

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

PUBLICATIONS

10. **Paul Strel**, Jiayi Jiang, Juliete Rossie, and Christian Holz. 2023. Structured Light Speckle: Joint egocentric 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. Jiayi 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**, Jiayi 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

4. Jiayi 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**, Jiayi 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
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	
ACM CHI	2021–24
ACM UIST	2021–23
IEEE CVPR	2024
IEEE ICCV	2023
IEEE VR	2022
IEEE ISMAR	2022
ACM IMWUT	2022–23
ACM ISS	2021–22

TEACHING EXPERIENCE

Graduate Teaching Assistant , <i>Mobile Health and Activity Monitoring</i> , ETH Zürich	Spring 2022/23
Graduate Teaching Assistant , <i>Probabilistic Artificial Intelligence</i> , ETH Zürich	Fall 2021/22
Graduate Teaching Assistant , <i>Ubiquitous Computing</i> , ETH Zürich	Spring 2021
Teaching Assistant , <i>Introduction to Computer Architecture and Systems</i> , Imperial	Fall 2018

INVITED TALKS

Google , AR team, Host: David Kim	2022
Microsoft Research , Swiss Joint Research Centre Workshop — Computer Vision	2021

STUDENTS MENTORED

Xintong Liu , Master, <i>Robotics, Systems and Control</i> , ETH Zürich	2023
Yves Inglin , Bachelor, <i>Computer Science</i> , ETH Zürich	2023
Jaro Meyer , Bachelor, <i>Computer Science</i> , ETH Zürich	2023
Yiming Zhao , Master, <i>Electrical Engineering</i> , ETH Zürich	2023
Shubham Kumar , Master, <i>Computer Science</i> , ETH Zürich	2022
Seraina Saurenmann , Master, <i>Robotics, Systems and Control</i> , ETH Zürich	2022
Bowen Wang , Master, <i>Electrical Engineering</i> , ETH Zürich	2022
Stefano Kron , Master, <i>Biomedical Engineering</i> , ETH Zürich	2022
Fabio Bazzi , Master, <i>Robotics, Systems and Control</i> , ETH Zürich	2022
Alexander Eichhorn , Bachelor, <i>Computer Science</i> , ETH Zürich	2022
Simon Boehi , Bachelor, <i>Computer Science</i> , ETH Zürich	2022
Michael Thomas Schlegel , Bachelor, <i>Computer Science</i> , ETH Zürich	2022
Valentin Bieri , Bachelor, <i>Computer Science</i> , ETH Zürich	2022
Francois Pailleau , Master, <i>Robotics, Systems and Control</i> , ETH Zürich	2021
Huajian Qiu , Master, <i>Computational Science and Engineering</i> , EPFL	2021
Daniel Gstöhl , Master, <i>Computer Science</i> , ETH Zürich	2021
Boris Bernegger , Bachelor, <i>Computer Science</i> , ETH Zürich	2021
Jannik Gartmann , Bachelor, <i>Computer Science</i> , ETH Zürich	2021

SELECTED PRESS COVERAGE

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