

Manuel Werlberger

Computer Vision Engineer
Tech Lead

call +41 (0) 76 491 98 89
write manuel@werlberger.org
visit www.werlberger.org
meet Zurich, Switzerland

WORK EXPERIENCE

Computer Vision Engineer, Tech Lead

Meta | Zurich | Sep 2016 - Present

- since 2022: Scene Understanding: Confidential project.
- 2021 - 2022: XR Maps: Tech Lead on a confidential cross-functional project to coordinate core technology from over ten teams including visual localization, inside-out tracking, anchors, experiences and mapping.
- 2017 - 2020: Oculus Passthrough: Contributing to 3D scene reconstruction, system integration and evaluation. Incubating Oculus Space Sense.
- 2016 - 2017: Oculus Insight to enable inside-out position tracking for Oculus Quest:
<https://ai.facebook.com/blog/powered-by-ai-oculus-insight/>

Tech Lead Manager

Facebook, Oculus VR | Zurich | Sep 2017 - Dec 2018

- Leading small team to incubate Oculus Passthrough.

Co-Founder and CEO

Zurich Eye | Zurich | Sep 2015 - Aug 2016

- Zurich Eye was acquired by Facebook in Aug 2016 and opened the Zurich office.
- Zurich Eye enables machines to independently navigate in any space. The hardware and software system provides reliable and sub-centimeter accurate position information to robots that navigate indoors, in urban areas, and in fully open space.

Postdoctoral Research Fellow

University of Zurich | Zurich | Oct 2014 - Dec 2015

- 3D reconstruction using flying robots.

Computer Vision Engineer, Senior Software Engineer

Dacuda AG | Zurich | Aug 2012 - Sep 2014

- Incubating 3D object reconstruction using mobile phones.
- Interfacing with customers and collaborators.
- Incubating inside-out tracking on mobile phones.
- Coordinating a research project with the Robotics and Perception Group at the University of Zurich to enable inside-out tracking on resource constraint mobile devices.

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Research Assistant

Graz University of Technology | Graz | Jun 2008 - Jun 2012

- PhD student at the Institute of Computer Graphics and Vision under the supervision of Prof. Horst Bischof and Prof. Thomas Pock in the GPU4Vision group mainly working on variational optimization methods on GPUs for low-level image processing problems (i.e. optical flow, stereo, super resolution and segmentation).
- Research collaboration with HS-ART and developed computer vision libraries have been utilized in their video restoration software suite.

Software Engineer

AviBit Air Traffic Solutions | Graz | Jul 2005 - Oct 2006

- Part-time while studying building a safety monitoring system for air traffic control systems.

UNIVERSITY DEGREES / EDUCATION

Dr.techn. (Ph.D.), with distinction
2008 - 2012

School: Doctoral School of Computer Science, Graz University of Technology, Austria
Thesis title: Convex Approaches for High Performance Video Processing
Supervisors: Prof. Dr. Horst Bischof and Prof. Dr. Thomas Brox
Advisor: Prof. Dr. Thomas Pock

Dipl.-Ing. (M.Sc.), with distinction
2006 - 2008

School: Master Studies of Telematics (Computer Engineering), Graz University of Technology, Austria
Thesis title: Globally Optimal TV-L1 Shape Prior Segmentation
Supervisors: Prof. Dr. Horst Bischof
Advisor: Dr. Thomas Prock

Bakk. techn. (B.Sc.)
2001 - 2006

School: Bachelor Studies of Telematics (Computer Engineering), Graz University of Technology, Austria
Thesis title: TODO
Supervisors: Prof. Dr. Horst Bischof and Prof. Dr. Thomas Brox

PATENTS

1. Dynamic updating of a composite image, US-11315217-B2
2. Adaptive camera control for reducing motion blur during real-time image capture, US-2020374455-A1
3. Reconstruction of essential visual cues in mixed reality applications, US-2021012571-A1
4. Systems, methods, and media for detecting object-free space , US-2021233311-A1

PUBLICATIONS

You find a list of academic publications on my Google Scholar page at <https://www.werlberger.org/scholar>.