

Dominik Schörkhuber

Computer Vision Engineering and Research · TU Wien



PERSONAL DATA

Born	<i>redacted for public use</i>
Address	<i>redacted for public use</i>
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Email	dschoerk@gmx.at
Languages	German (mother tongue), English (fluent)

WORK EXPERIENCE

since 2018	Research Assistant (Projektassistent) · TU Wien, Research Unit Computer Vision <ul style="list-style-type: none">• Computer vision and deep learning research for automotive applications in publicly funded projects with industry partners.• Co-authored 11 peer-reviewed publications.• Teaching in computer vision and deep learning: gave lectures, designed and graded exercises and exams, supervised exams, and co-supervised bachelor and master theses.• Driver and occupant monitoring: human pose estimation for drivers; recognition systems for driver's actions and emotions.
2014 – 2015	Technical Employee · Profactor GmbH Implementation of a texture synthesis algorithm for 3D scanning and reconstruction in C++ and OpenGL.
2015 – 2016	Tutor · TU Wien Tutor for the course Introduction to Visual Computing (two semesters).
2007 – 2016	Internships <ul style="list-style-type: none">• Profactor GmbH (2008–2010, 2013, 2015–2016): Texture synthesis for 3D scanning; Continuous integration and cross-compilation for a C++ computer vision framework on Linux, Windows and macOS; HTL final-year project with Perspectix, Zürich, developed a plugin to compute energy footprints of buildings.• Systema Human Information Systems GmbH (2011–2012): Software development and test automation.• Ennskraftwerke AG (2007): Maintenance work at a hydro-electric power plant.

EDUCATION

2019 – 2025	Doctoral studies in Computer Science (not completed) · TU Wien
2016 – 2018	Master of Science in Visual Computing · TU Wien Passed with distinction Thesis: “Techniques for Improving Mobile Video Creation” Advisor: Prof. Margrit Gelautz
2010 – 2016	Bachelor of Science in Media Informatics and Visual Computing · TU Wien Thesis: “Fast KNN in Screenspace on GPGPU” Advisor: Dr. Stefan Ohrhallinger
2006 – 2010	Electronics and Technical Informatics · HTBLA Steyr Thesis: “EPMI – Energiekennzahlberechnung” Advisor: Dr. Hans-Peter Bernhard

RESEARCH PROJECTS

2024 – 2026	Empathic Vehicle · Vienna Business Agency <i>Implementation and evaluation of emotion recognition systems from facial expressions in combination with body movements in vehicles.</i>
2024 – 2026	UNISCOPE-3D · FFG (Austrian Research Promotion Agency) <i>Development of methods for driver action recognition and driver pose estimation with a focus on 3D data from monocular estimation.</i>

2022 – 2024	SyntheticCabin · FFG (Austrian Research Promotion Agency) <i>Evaluation of human pose estimation algorithms for driver and occupant monitoring using synthetic data; development of algorithms for driver action recognition.</i>
2021 – 2023	SmartProtect · FFG (Austrian Research Promotion Agency) <i>Recognition and prediction of vulnerable road users in automotive scenarios using deep learning and computer vision.</i>
2018 – 2020	CarVisionLight · FFG (Austrian Research Promotion Agency) <i>Implemented object detection and tracking algorithms for road users and static objects in automotive scenarios; Development of semi-automatic annotation tools for automotive datasets.</i>
2016 – 2017	PersonalFilmAssistant · WAW (Vienna Business Agency) <i>Implementation of deep learning algorithms for shot scale estimation, finger-on-lens detection and video stabilization.</i>

VOLUNTARY WORK

2011 – 2022	Network Administration · Johann Pölzer students' dorm
since 2017	Web Development and Administration · Theatergruppe Mühlbach and Sportverein Mühlbach; Development of Wordpress themes and plugins, maintenance of websites and servers; Development and hosting of a seat reservation system for the theater group.

PUBLICATIONS

- [12] N. Fraissl, **D. Schörkhuber**, M. Hödlmoser, T. A. Berens, L. Wurzing, B. Salzbrunn, M. Eckelt, R. Dimov, M. Gelautz: *Towards Empathic Vehicles: Simulator-Based Induction of Affective States for Emotion Recognition*, SUMO - Simulation of Urban Mobility, 2026.
- [11] T. Kunanuntakij, **D. Schörkhuber**, M. Gelautz: *Synthetic Skeletal Pose Pre-training to Mitigate Data Scarcity in In-Cabin 2D-to-3D Pose Lifting*, Austrian Symposium on AI, Robotics and Vision (AIROV), 2026.
- [10] R. Panadero, **D. Schörkhuber**, M. Gelautz: *Importance-Guided Interpretability and Pruning for Video Transformers in Driver Action Recognition*, IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025.
- [9] R. Panadero, **D. Schörkhuber**, M. Gelautz: *Cyclist Trajectory Prediction from an Ego-vehicle Camera Using Recurrent Neural Networks*, Austrian Association for Pattern Recognition (OAGM), 2023.
- [8] D. Sagmeister, **D. Schörkhuber**, M. Nezveda, F. Stiedl, M. Schimkowitsch, M. Gelautz: *Transfer Learning for Driver Pose Estimation from Synthetic Data*, Proceedings of Intelligent Vehicle Symposium (IV), 2023.
- [7] **D. Schörkhuber**, R. Popp, O. Chistov, F. Windbacher, M. Hödlmoser, M. Gelautz: *Design of an Automotive Platform for Computer Vision Research*, Electronic Imaging (EI), 2023.
- [6] **D. Schörkhuber**, M. Pröll, M. Gelautz: *Feature Selection and Multi-task Learning for Pedestrian Crossing Prediction*, Proceedings of 16th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS), 2022.
- [5] **D. Schörkhuber**, F. Groh, M. Gelautz: *Bounding Box Propagation for Semi-automatic Video Annotation of Nighttime Driving Scenes*, Proceedings of 2021 12th International Symposium on Image and Signal Processing and Analysis (ISPA), 2021.
- [4] F. Groh, **D. Schörkhuber**, M. Gelautz: *A Tool for Semi-automatic Ground Truth Annotation of Traffic Videos*, Proceedings of IS&T International Symposium on Electronic Imaging – Autonomous Vehicles and Machines (AVM), 2020.
- [3] **D. Schörkhuber**: *Techniques for Mobile Video Creation*, Master Thesis, Fakultät für Informatik, Technische Universität Wien, 2018.
- [2] **D. Schörkhuber**, F. Seitner, B. Salzbrunn, M. Gelautz, G. Braun: *Intelligent Film Assistant for Personalized Video Creation on Mobile Devices*, Proceedings of the 15th International Conference on Advances in Mobile Computing & Multimedia (MoMM), 2017.
- [1] **D. Schörkhuber**: *Fast KNN in Screenspace on GPGPU*, Bachelor Thesis, Fakultät für Informatik, Technische Universität Wien, 2016.