

István Sárándi

Computer Vision and Machine Learning Researcher

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RESEARCH INTERESTS

- Computer Vision • Machine Learning • 3D Human Analysis • Human-Centric AI • Robustness Analysis

EDUCATION

- **PhD in Computer Science** **RWTH Aachen University, Germany** (Apr 2017–May 2023)
Advisor: Prof. Dr. Bastian Leibe
Thesis: *Robust and Efficient Methods in Visual 3D Human Pose Estimation*
- **M. Sc. in Computer Science** **RWTH Aachen University, Germany** (Oct 2012–Mar 2016)
Specialization in computer vision, machine learning, image processing
Thesis: *Pedestrian Line Counting using Probabilistic Combination of Flow and Appearance Information*
Grade: Excellent with distinction (1.3)
- **B. Sc. in Computer Engineering** **Budapest U. of Techn. and Econ., Hungary** (Sep 2008–Jan 2012)
German-language program, exchange semester at the Karlsruhe Institute of Technology (KIT)
Specialization track: Autonomous Intelligent Systems
Thesis: *Design of a System to Support Medical Coding* (diagnosis classification via neural nets and SVM)
Grade: Excellent with highest honors

WORK EXPERIENCE

- **Postdoctoral Researcher** **University of Tübingen, Germany** (Mar 2023–)
 - *Real Virtual Humans* group led by Prof. Dr. Gerard Pons-Moll
 - Research on the topic of 3D human analysis
- **Research Assistant** **RWTH Aachen University, Germany** (Apr 2017–Feb 2023)
 - Research on the topic of 3D human analysis
 - Teaching experience (exercise sessions, programming assignments and exam design)
 - Deep Learning Laboratory (Summer 2021)
 - Computer Vision (Summer 2019, Summer 2020)
 - Seminar Computer Vision and Machine Learning (S18, S19, W19, S20, W20, W21)
 - Introduction to Computer Science (Winter 2017)
 - Systems administration of the research group's GPU cluster and server infrastructure
- **Student Research Assistant** **RWTH Aachen University, Germany** (Nov 2013–May 2014)
Pedestrian crowd density estimation and movement analysis in images and video (C++, Matlab)
- **Student Research Assistant** **Uniklinik RWTH Aachen, Germany** (Dec 2012–Oct 2013)
Medical computer vision and image processing: eye segmentation and allergic redness measurement, color calibration for wound imaging (Java)
- **Software Engineering Intern** **Karlsruhe Institute of Technology (KIT)** (July 2011)
Medical imaging: 3D blood vessel visualization in volumetric CT scans (C++, C++/CLI)

HONORS AND AWARDS

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|-------------------------------------|-------------------------------------|-------------------|
| • Outstanding Reviewer Award | CVPR | 2021, 2022 |
| • Best 3D Pose Estimation Method | ECCV 3D Poses in the Wild Challenge | Aug 2020 |
| • Best 3D Pose Estimation Method | ECCV PoseTrack Challenge | Sep 2018 |
| • PhD Funding Scholarship | Bosch Research Foundation | 2017–2020 |
| • Springorum Commemorative Coin | proRWTH Foundation | Sep 2016 |
| • Scholarship for Exchange Semester | DAAD | Oct 2010–Feb 2011 |
| • Scholarship for Internship | DAAD | July 2011 |

LANGUAGES

- English Proficient (C2 level, IELTS 8.5/9, 2012)
- German Proficient (C2 level, Goethe-Institut ZOP, 2011)
- Hungarian Native speaker

ACADEMIC ACTIVITIES

- Peer reviewed for CVPR, ICCV, ECCV, BMVC, ICRA, GCPR, T-PAMI, T-NNLS, IEEE MultiMedia, The Visual Computer
- International Computer Vision Summer School (ICVSS): 2014 (as master’s student), 2018 (as PhD student)

SELECTED PUBLICATIONS

- István Sárándi, Alexander Hermans, and Bastian Leibe. Learning 3D human pose estimation from dozens of datasets using a geometry-aware autoencoder to bridge between skeleton formats. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2023
- István Sárándi, Timm Linder, Kai O. Arras, and Bastian Leibe. MeTRAbs: Metric-scale truncation-robust heatmaps for absolute 3D human pose estimation. *IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM)*, 3(1):16–30, 2021
- István Sárándi, Timm Linder, Kai O. Arras, and Bastian Leibe. Metric-scale truncation-robust heatmaps for 3D human pose estimation. In *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, 2020
- Markus Knoche, István Sárándi, and Bastian Leibe. Reposing humans by warping 3D features. In *IEEE Conference on Computer Vision and Pattern Recognition – Workshops (CVPRW)*, 2020
- Kilian Pfeiffer, Alexander Hermans, István Sárándi, Mark Weber, and Bastian Leibe. Visual person understanding through multi-task and multi-dataset learning. In *DAGM German Conference on Pattern Recognition (GCPR)*, 2019
- István Sárándi, Timm Linder, Kai O. Arras, and Bastian Leibe. Synthetic occlusion augmentation with volumetric heatmaps for the 2018 ECCV PoseTrack Challenge on 3D human pose estimation. *arXiv:1809.04987*, 2018
- István Sárándi, Timm Linder, Kai O. Arras, and Bastian Leibe. How robust is 3D human pose estimation to occlusion? In *IEEE/RSJ International Conference on Intelligent Robots and Systems – Workshops (IROS)*, 2018

TALKS

- Invited talk at Adobe Research, San Jose, California (January 2023)
- Research talk at the Real Virtual Humans group of the University of Tübingen (July 2022)