

# Lucas Maximilian Martini, M.Sc.

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🌐 <https://martinivis.github.io/>



## Employment History

- 2021–... **PhD Student** — International Max Planck Research School for Intelligent Systems (IMPRS-IS), Tübingen.
- PhD Student** — Hertie Institute for Clinical Brain Research, University Clinics Tübingen, Tübingen.
- 2018–2020 **Student Assistant** — Co-designed and taught the LAMA Machine Learning course, Karlsruhe Institute of Technology (KIT); Recipient of the 2020 Faculty Teaching Award.
- 2018 **Intern** — Fraunhofer IPA, Stuttgart, Automation and Robotics Department.

## Education

- 2021–... **Ph.D., Computer Science** — University of Tübingen. Thesis: *Markerless Motion Capture in Non-human Primates*.
- 2018–2020 **M.Sc., Electrical Engineering and Information Technology** — Karlsruhe Institute of Technology (KIT). Specialization: Signal Processing. Electives in Machine Learning, Computer Vision, and Communication Engineering. Thesis: *A Cross-Platform Approach to Brain-Computer Interfaces for Monitoring and Device Control Using Augmented Reality*. Grade: 1.0.
- 2015–2018 **B.Sc., Electrical Engineering and Information Technology** — Karlsruhe Institute of Technology (KIT). Thesis: *Instance Segmentation of Objects Close to the User for Improved Perception in Augmented Reality Using Transfer Learning*. Grade: 1.0.

## Publications

- 1 L. Martini, A. Lappe, A. Bognár, R. Vogels, and M. A. Giese, “Bigmaq: A big macaque motion and animation dataset bridging image and 3d pose representations,” in *The Fourteenth International Conference on Learning Representations*, 2026. 🌐 URL: <https://openreview.net/forum?id=n7viYE7Xbo>.
- 2 R. Raman et al., “Keypoint-based modeling reveals fine-grained body pose tuning in superior temporal sulcus neurons,” *Nature Communications*, vol. 16, no. 1, p. 5796, Jul. 2025, ISSN: 2041-1723. 🌐 DOI: 10.1038/s41467-025-60945-5.
- 3 A. Lappe et al., “Parallel backpropagation for shared-feature visualization,” in *Advances in Neural Information Processing Systems*, A. Globerson et al., Eds., vol. 37, Curran Associates, Inc., 2024, pp. 22 993–23 012. 🌐 DOI: 10.52202/079017-0724.
- 4 L. M. Martini, A. Bognár, R. Vogels, and M. A. Giese, “Macaction: Realistic 3d macaque body animation based on multi-camera markerless motion capture,” *bioRxiv*, 2024, Under Review at Plos Biology. 🌐 DOI: 10.1101/2024.01.29.577734. eprint: <https://www.biorxiv.org/content/early/2024/04/08/2024.01.29.577734.full.pdf>.

## Conferences & Academic Activities

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- 2026 ■ **Vision Sciences Society (VSS) Annual Meeting** — St. Pete Beach, USA, Talk: *Macaques in action: realistic individualized 3D monkey avatars with naturalistic motion.*
- **International Conference on Learning Representations (ICLR)** — Rio de Janeiro, Brazil, Poster.
- **Conference on Cognitive Computational Neuroscience (CoSyNe)** — Lisbon, Portugal, Poster.
- 2025 ■ **Society for Neuroscience (SfN) Annual Meeting** — San Diego, USA, Poster.
- **Summer School on Artificial Intelligence, Ethics and Human Rights** — Rome, Italy.
- 2024 ■ **Vision Sciences Society (VSS) Annual Meeting** — St. Pete Beach, USA, Poster.

## References

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