

Curriculum Vitae

Name: Wojciech Zielonka

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Nationality: Polish

[Personal website](#)

[PhD Thesis](#)

Education

2024 – 2025	<i>Doctor of Philosophy</i>	Technical University of Darmstadt	Computer Science
2021 – 2024	<i>Doctor of Philosophy</i>	Max Planck Institute for Intelligent Systems	Computer Science
2018 – 2021	<i>Master of Science</i>	Technical University of Munich	Computer Science
2013 – 2017	<i>Bachelor of Engineering</i>	Gdansk University of Technology	Computer Science
2012 – 2015	<i>Bachelor of Arts</i>	University of Gdansk	Computer Science and Econometrics

Professional experience

Meta (Pittsburgh) Research Scientist 09.2025 – 05.2026 (full-time)

Building multimodal conversational agents in 2D and 3D:

- Training large-scale LLMs for motion and behavior modeling
- Building motion tokenizers using FSQ, VQ and RVQ
- Training generative models (GAN, flow matching, diffusion, DiT)
- Combining LLMs with continuous generative heads (flow matching and diffusion)
- Generating synthetic data with LTX and WAN2.2 for downstream applications
- Curating, filtering and preparing datasets for large-scale training

Google (Zurich) Research Internship 04.2024 – 03.2025 (full-time)

Researched novel methods for creating digital 3D controllable upper-body avatars:

- Generated a high-quality synthetic dataset of humans
- Built a strong human-centric prior from the dataset
- Developed a method (published at CVPR) to generate an avatar from only a few input images

Meta (Pittsburgh) Research Internship 04.2023 – 10.2023 (full-time)

Researched novel methods for 3D representation and creation of full-body avatars:

- Developed the first method to represent an avatar using Gaussian splats embedded in a tetrahedral cage encapsulating the full body
- Researched garment deformation using a data-driven neural representation
- Researched human motion in the context of photorealistic 3D avatars

NavVis (Munich) Working Student Software Engineer 08.2018 – 02.2021 (part-time)

- Implemented a point cloud renderer in production code, improving the scalability and visual detail of the existing viewer for scanned environments
- Developed a novel, fully parallel method based on Quadric Mesh Simplification that targets planar surfaces as the simplification objective

Simplyer (Gdansk) Junior Full-Stack Software Engineer 10.2016 – 02.2018 (full-time)

Intel (Gdansk) Junior Validator Engineer 07.2015 – 09.2016 (full-time)

Projects <https://wojciechzielonka.com/>

Languages Polish (native), English (full proficiency)

Interests Generative modeling, diffusion and autoregressive models, multimodal learning, human motion and behavior modeling, digital humans, controllable avatars, neural scene representations, Gaussian-based rendering, scalable generative AI systems and world models.

List of Publications

- *How to Build Digital Humans? From Priors to Photorealistic Avatars*, Eurographics 2026, W. Zielonka, T. Kirschstein, T. Bolkart, S. Giebenhain, V. Sklyarova, X. Deng, D. Xiang, S. Saito, Y. Liu, M. Niessner, and J. Thies
- *PhysHead: Simulation-Ready Gaussian Head Avatars*, CVPR 2026, B. Kabadayi, V. Sklyarova, W. Zielonka, J. Thies
- *SynShot: Synthetic Prior for Few-Shot Drivable Head Avatar Inversion*, CVPR 2025, W. Zielonka, S. J. Garbin, A. Lattas, G. Kopanas, P. Gotardo, T. Beeler, J. Thies, T. Bolkart
- *GEM: Gaussian Eigen Models for Human Heads*, CVPR 2025, W. Zielonka, T. Bolkart, T. Beeler, J. Thies
- *D3GA: Drivable 3D Gaussian Avatars*, 3DV 2025, W. Zielonka, T. Bagautdinov, S. Saito, M. Zollhöfer, J. Thies, J. Romero
- *GAN-Avatar: Controllable Personalized GAN-based Human Head Avatar*, 3DV 2024, B. Kabadayi, W. Zielonka, B. L. Bhatnagar, G. Pons-Moll, J. Thies
- *INSTA: Instant Volumetric Head Avatars*, CVPR 2023, W. Zielonka, T. Bolkart, J. Thies
- *MICA: Towards Metrical Reconstruction of Human Faces*, ECCV 2022, W. Zielonka, T. Bolkart, J. Thies