Lukas Uzolas

Rotterdam, the Netherlands (aiming to relocate)
Ph.D. Candidate in 3D Computer Vision and Graphics
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Summary Ph.D. Candidate specializing in image synthesis and object dynamics, with a focus on 3D controllability. Extensive knowledge of 2D and 3D machine learning and deep learning workflows in Python. Experience in international, collaborative and dynamic work environments that provide open-ended problems. Graduating in Spring 2026, I am looking for applied research opportunities at the intersection of Computer Vision and Computer Graphics.

Education

Ph.D. | **Computer Science @ CGV** May 2022 – ongoing
Delft University of Technology *Delft, Netherlands*
Topics: Neural Rendering, Dynamic 3D Reconstruction, Generative Modelling, 3D Animation

M.Sc. | **Image Processing and Computer Vision** Sep. 2019 – Sep. 2021
PPCU, UAM, UBx *Hungary, Spain, France*
Awards: Graduated best of class, Erasmus Mundus Master Scholarship recipient

B.Sc. | **Human-Computer-Interaction** Oct. 2015 – Jun. 2019
University of Hamburg *Hamburg, Germany*
Awards: Graduated best of class

Experience

Research Intern May. 2025 – Aug. 2025
Google *Zurich, Switzerland*
- Improved the controllability of pre-trained 2D diffusion models with synthetic 3D data
- Implemented large-scale pre-processing, training, and evaluation pipelines for 2D diffusion models in JAX and Tensorflow
- Investigated and proposed research directions to stakeholders independently

Ph.D. Candidate May 2022 – ongoing
Delft University of Technology *Delft, Netherlands*
- Formulated research directions and consistently delivered projects on time, resulting in multiple publications at high-impact venues
- Guided students during their thesis projects as a co-supervisor, leading to 5 successful B.Sc. and M.Sc. graduations
- Assisted students with advanced imaging concepts as a teaching assistant in *Applied Image Processing* and *3D Visual Computing* in Python and C++, and created assignments and grading pipelines allowing for efficient evaluation of 100+ students at a time

Research Intern *(remote, due to Covid pandemic)* Feb. 2021 – Jun. 2021
Harvard University *Cambridge, MA, USA*
- Initiated a research collaboration between Visual Computing Group at Harvard and the University of Bordeaux, resulting in my Master's thesis on Domain Adaptation
- Proposed a method on utilizing pre-trained model priors for medical image segmentation

Research Intern Jul. 2020 – Sep. 2020
MEDIC *Madrid, Spain*
- Explored and implemented different algorithms for extracting features from high frame rate videos of eyes, aiming to improve ocular refractive index calculations in Matlab

Working Student Fullstack Development *(part-time)* Oct. 2017 – Feb. 2019
Senacor, **Daimler AG**, **BOOM GmbH** *Hamburg & Stuttgart, Germany*

- Conceptualized and implemented web applications, developing backend logic in Node.js & C#, HTTPS APIs with Express, and creating interfaces with Javascript & Vue.js
- Demonstrated the feasibility of technical ideas to stakeholders by designing and realizing prototypes, leading to real-world business and marketing decisions

Student Supervisor in Software Development I & II *(part-time)* Oct. 2016 – July. 2017
University of Hamburg *Hamburg, Germany*

- Taught and examined software development and programming concepts in Java

Publications

Surface-Aware Distilled 3D Semantic Features, SIGGRAPH Asia 2025 [**paper**, **site**]
Lukas Uzolas, Elmar Eisemann, Petr Kellnhofer
Topics: Self-Supervised Learning, Representation Learning, 3D Geometry, Foundation Models, PyTorch

MotionDreamer: Exploring Semantic Video Diffusion features for Zero-Shot 3D Mesh Animation, 3DV 2025 [**paper**, **site**]
Lukas Uzolas, Elmar Eisemann, Petr Kellnhofer
Topics: Generative Models, Diffusion Models, Differentiable Rendering, User Studies, PyTorch

Template-free Articulated Neural Point Clouds for Reposable View Synthesis,
NeurIPS 2023 [**paper**, **site**]
Lukas Uzolas, Elmar Eisemann, Petr Kellnhofer
Topics: Dynamic 3D Reconstruction, Neural Rendering, NeRF, Kinematics, PyTorch

Deep Anomaly Generation: An Image Translation Approach of Synthesizing Abnormal Banded Chromosome Images, IEEE Access 2022 [**paper**]
Lukas Uzolas*, Javier Rico*, Pierrick Coupé, Juan C. SanMiguel, and György Cserey
Topics: Generative Models, Generative Adversarial Networks (GANs), Synthetic Data, PyTorch

Scale & Walk: Evaluation of scaling-based interaction techniques for natural locomotion in VR [Translated], Mensch und Computer 2018 [**paper**]
Boysen, Yannic*; Husung, Malte*; Mantei, Timo*; Müller, Lisa-Maria*; Schimmelpfennig, Joshua*; Lukas Uzolas*; Langbehn, Eike;
Topics: Virtual Reality (VR), User Studies, Unity

**equal contribution*

Languages

English *(Fluent)*, German *(Native)*, Lithuanian *(Intermediate)*, Mandarin *(Beginner)*

Interests

Besides enjoying running, I am currently learning Mandarin, and I sometimes like to build small applications aiding my learning journey [**example**].