Laura Fink

Dr.-Ing., Researcher

lorafib.github.io

Scholar Profile

LinkedIn

About Me

My work connects artificial intelligence, computer vision, and computer graphics. I study how AI can reconstruct, represent, and visualize the three-dimensional world.

Talks & Posters

2026	Poster presentation, ECCV
2026	Invited talk, GraphDeco, Inria
2026	Conference talk, Higraphics
2025	Invited talk, Visual Computing and AI Lab, Max Planck Institute for Informatics
2025	Conference talk, Vision, Modeling, and Visualization
2025	Poster presentation, ICCV Workshop Wild3D
2023	Conference talk, SIGGRAPH Asia
2023	Conference talk, ISVC
2019	Conference talk, IEEE VR
2019	Poster presentation, MICCAI

Awards

2026	NHR compute grant
2025	Honorable Mention Award, Vision, Modeling, and Visualization
2024	NHR compute grant
2020	STIHL Cutting Edge Award
2018	DAAD PROMOS scholarship

Projects & Research Areas

AI-driven 3D Reconstruction Explicit geometry prediction with feed-forward geometry transformers [Fink 2026] and multi-view differentiable rendering for depth refinement [Fink 2025]. Recently, also fusing X-ray and visible-light sensor measurements through hybrid 3D representations, learned priors, and physical acquisition models.

Neural Rendering Generalizable novel view synthesis from live, incomplete RGB-D capture, with low-latency pipelines that avoid per-scene optimization [Fink 2023a, Harrer 2023].

Immersive Displays Efficient rendering under hardware and latency constraints for VR, light field displays, and embedded AR [Fink 2019a, Fink 2023b, Fink 2019b].

Professional Experience

10/2026 – present	**Visiting Postdoc**	Inria, France
	3D scene representations for generalizable reconstruction and light transport with George Drettakis (GraphDeco).	
04/2026 – 09/2026	**Researcher**	FAU / Voxray GmbH
	Early-stage research on combined CT and optical systems.	
09/2024 – 03/2026	**Doctoral Researcher**	FAU / Google DeepMind
	Feed-forward 3D reconstruction with geometry transformers and signed distance functions, resulting in *Fus3D* [Fink 2026].	
05/2020 – 09/2024	**Doctoral Researcher**	FAU / Fraunhofer IIS
	Machine learning for 3D reconstruction, live novel view synthesis, light fields, and immersive displays.	
11/2018 – 06/2019	**Research Intern**	Johns Hopkins University, USA
	Physically based rendering for embedded AR and a HoloLens prototype for vessel visualization; published at MICCAI.	
01/2019 – 05/2019	**Course Assistant**	Johns Hopkins University, USA
	Mentoring and assignment development for *Augmented Reality.*	
01/2018 – 10/2018	**Student Research Assistant**	FAU / Schaeffler AG
	Educational VR application using Unity.	
01/2017 – 10/2017	**Student Research Assistant**	FAU Erlangen-Nürnberg
	Hybrid mono-stereo rendering for VR; published at IEEE VR.	
10/2015 – 12/2017	**Student Research Assistant**	Fraunhofer IISB
	Simulation software for fatigue analysis of power electronic devices.	
08/2010 – 04/2016	**Assistant**	F3N Internetlösungen GmbH / FEN e.V.
	Web development, content mangement, Accounting, and IT support.	

Education

05/2020 – 08/2026	**Dr.-Ing. in Computer Science**	FAU Erlangen-Nürnberg
	Dissertation: *Learning 3D Reconstruction and Novel View Synthesis from Image-based Rendering.* Defended on 27 August 2026; *mit Auszeichnung bestanden* (passed with distinction).	
10/2017 – 03/2020	**M.Sc. in Computer Science**	FAU Erlangen-Nürnberg
	Passed with distinction (overall grade: 1.1); master's thesis: 1.0.	
10/2013 – 02/2017	**B.Sc. in Computer Science**	FAU Erlangen-Nürnberg
	Bachelor's thesis: 1.0; best freestyle game in the graphics project.	

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Skills & Tools

Machine Learning
PyTorch, LibTorch, NumPy, SciPy

Graphics & Vision
OpenGL, COLMAP, Open3D, nvblox, nvdiffrast

Systems & Scripting
Linux, Bash, Git, Slurm

Programming Languages
C++, Python, CUDA

Languages
German (native), English (C1)

Service & Interests -

Women's Representative
FAU Computer Science, 2022–2026; departmental boards and appointment committees.

Reviewer Service
SIGGRAPH, SIGGRAPH Asia, ICCV, CGF, Eurographics, ECCV, and WACV.

Interests
Snowboarding, wakeboarding, beekeeping, woodworking, sewing, and painting.

Publications

First-authored

[Fink 2026] *Laura Fink*, Linus Franke, George Kopanas, Marc Stamminger, and Peter Hedman. **Fus3D: Decoding Consolidated 3D Geometry from Feed-Forward Geometry Transformer Latents**. In ECCV 2026, Lecture Notes in Computer Science. Springer, 2026.

[Fink 2025] *Laura Fink*, Linus Franke, Bernhard Egger, Joachim Keinert, and Marc Stamminger. **Refinement of Monocular Depth Maps via Multi-View Differentiable Rendering**. In proceedings of Vision, Modeling, and Visualization. The Eurographics Association, 2025, and in ICCV 2025 Workshop on Wild 3D: 3D Modeling, Reconstruction, and Generation in the Wild, 2025.

[Fink 2023a] *Laura Fink*, Darius Rückert, Linus Franke, Joachim Keinert, and Marc Stamminger. **LiveNVS: Neural view synthesis on live RGB-D streams**. In SIGGRAPH Asia 2023 Conference Papers, 2023.

[Fink 2023b] *Laura Fink*, Svenja Strobel, Linus Franke, and Marc Stamminger. **Efficient rendering for light field displays using tailored projective mappings**. In proceedings of the ACM on Computer Graphics and Interactive Techniques, 2023.

[Fink 2023c] *Laura Fink*, Daniel Keitel, Marc Stamminger, and Joachim Keinert. **UniTorch–integrating neural rendering into unity**. In International Symposium on Visual Computing, 2023.

[Fink 2019a] *Laura Fink*, Nora Hensel, Daniela Markov-Vetter, Christoph Weber, Oliver G Staadt, and Marc Stamminger. **Hybrid mono-stereo rendering in virtual reality**. In IEEE VR Conference Proceedings, 2019.

[Fink 2019b] *Laura Fink*, Sing Chun Lee, Jie Ying Wu, Xingtong Liu, Tianyu Song, Yordanka Velikova, Marc Stamminger, Nassir Navab, and Mathias Unberath. **Lumipath–towards real-time physically-based rendering on embedded devices**. In MICCAI Conference Proceedings, 2019.

Co-authored

[Franke 2025] Linus Franke, *Laura Fink*, and Marc Stamminger. **VR-splatting: Foveated radiance field rendering via 3D Gaussian splatting and neural points**. Proceedings of the ACM on Computer Graphics and Interactive Techniques, 2025.

[Franke 2024] Linus Franke, Darius Rückert, *Laura Fink*, and Marc Stamminger. **TRIPS: Trilinear point splatting for real-time radiance field rendering**. In Computer Graphics Forum, 2024.

[Harrer 2023] Mathias Harrer, Linus Franke, *Laura Fink*, Marc Stamminger, and Tim Weyrich. **Inovis: Instant novel-view synthesis**. In SIGGRAPH Asia 2023 Conference Papers, 2023.

[Franke 2023] Linus Franke, Darius Rückert, *Laura Fink*, Matthias Innmann, and Marc Stamminger. **VET: Visual error tomography for point cloud completion and high-quality neural rendering**. In SIGGRAPH Asia 2023 Conference Papers, 2023.

[Keinert 2023] Joachim Keinert, **Laura Fink**, Florian Goldmann, Muhammad Shahzeb Khan Gul, Tobias Jaschke, Nico Prappacher, Matthias Ziegler, Michel Bätz, and Siegfried Fössel. **Light Field Processing for Media Applications**. In Immersive Video Technologies, Elsevier, 2023.

[Franke 2021] Linus Franke, *Laura Fink*, Jana Martschinke, Kai Selgrad, and Marc Stamminger. **Time-warped foveated rendering for virtual reality headsets**. In Computer Graphics Forum, 2021.

Teaching & Supervision

Lecturing, assignment design, and tutoring:
Graphics and Game Programming (WS2020–2024; handover support in WS2025),
Neural Graphics and Inverse Rendering (SS2023–2026),
and *Interactive Computer Graphics* (SS2022–2026).
Supervision of 15 bachelor's and master's theses and two master's projects, including one ongoing thesis and one ongoing project on simulation-ready robotic assets and robotic photogrammetry.