DIANA MARIN

diana.marin@tuwien.ac.at
https://di-marin.github.io/

EDUCATION

Technische Universität Wien 2021 - 2025
Doctoral Programme in Engineering Sciences
Thesis: Proximity-Based Point Cloud Reconstruction

University of Leeds 2017 - 2021
Master of Engineering and Bachelor of Science with Honours Class I
Computer Science with High Performance Graphics and Games Engineering

EXPERIENCE

Technische Universität Wien September 2024 - Present
Postdoctoral Researcher - Virtual & Augmented Reality Group

I am part of the *RE:STOCK* project, developing methods to extract finite element models of structural elements from real-life scans, that can be directly used with structural analysis tools, enabling the reuse of industrial buildings and vertical expansions. I am also part of the *PostDisaster* project, where we use Gaussian Splatting to quickly reconstruct large areas for efficient post-disaster analysis and planning.

École Polytechnique Paris February 2024 - April 2024
Visiting Researcher

I was part of the Geomerix group, under Dr. Pooran Memari's supervision. We developed a new neighborhood graph rooted in topological data analysis, which became a SIGGRAPH Asia paper.

Technische Universität Wien September 2021 - September 2024
Project Assistant - Rendering Group

I worked as part of the *Modeling the World at Scale* project, which is concerned with developing point cloud surface reconstruction algorithms that can be used in real-time applications, with a focus on real data and change detection. I contributed to the area of proximity-based connectivity and reconstruction.

University of Leeds October 2020 - March 2021
Teaching Assistant

As a teaching assistant for the third-year Computer Graphics module, I assisted students with personal tutorials to help them better understand graphics concepts, and I marked part of the coursework.

University of Leeds March 2020 - September 2020
Research Assistant

Under Dr. He Wang's supervision, I worked on an interactive visualisation of laser-scanned data to make historical scenery available in museums in virtual reality, and a design tool that would help architects, using crowd simulation, assess the safety of environments in the current COVID-19 pandemic.

University of Leeds June 2019 - September 2019
Summer Intern

During the *Topological detection of meteorological vortices* internship, I worked under Dr. Hamish Carr's supervision on finding a method to discover vortex rings in simulated meteorological data.

MD Lab Games - mdlabgames.com 2015 - 2021
Co-Founder and Software Engineer

We have created VR, educational and business applications with different partners (Collider Visuals), for various clients (Mercedes Benz, Procter & Gamble, Alexander McQueen and Bottega Veneta).

ACHIEVEMENTS

- Selected as **WiGRAPH Rising Star** 2025 - a competitive award for outstanding early-career researchers.
- **Doktorandinnen der Informatik ans Rednerpult** 2022-2024 - 1000 EUR each year to present accepted work at a conference.
- **Cook Prize** in 2021 - awarded to the student from the School of Computing who achieves the best performance in the master's year.
- **Hutchinson Prize** in 2019 - awarded to the student from the School of Computing achieving the best performance in the second year.
- **Faculty of Engineering's Dean's List** in 2018 and 2019 - awarded to top 5% of 1^{st} and 2^{nd} year students in the Faculty of Engineering.
- Four-time recipient of the **Dean of Engineering Scholarship** - awarded to students achieving A*AA at A-level or equivalent and maintaining an average above 60% in each year.
- **First Place** - FinTech Hackathon, University of Leeds Hackathon and Leeds Hackathon (2018, 2019).
- **Gold Medal Infomatrix**, National and International Level, Romania.

PUBLICATIONS

- "SING: Stability-Incorporated Neighborhood Graph" - **Diana Marin**, Amal Dev Parakkat, Stefan Ohrhallinger, Michael Wimmer, Steve Oudot, and Pooran Memari. In: SIGGRAPH Asia 2024 Conference Papers (SA '24). doi: 10.1145/3680528.3687674.
- "Reconstructing Curves from Sparse Samples on Riemannian Manifolds" - **Diana Marin**, Filippo Maggioli, Simone Melzi, Stefan Ohrhallinger and Michael Wimmer. In: Computer Graphics Forum (Symposium on Geometric Processing 2024). doi: 10.1111/cgf.15136.
- "Distributed Surface Reconstruction" - **Diana Marin**, Patrick Komon, Stefan Ohrhallinger and Michael Wimmer In: Eurographics 2024 - Posters. doi: 10.2312/egp.20241037.
- "Parameter-Free Connectivity for Point Clouds" - **Diana Marin**, Stefan Ohrhallinger and Michael Wimmer. In Proceedings of the 19th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, 2024, Rome, Italy. doi: 10.5220/0012394900003660.
- "Visualizing Group Structure in Compound Graphs: the Current State, Lessons Learned, and Outstanding Opportunities" - Henry Ehlers, **Diana Marin**, Hsiang-Yun Wu and Renata Raidou. In Proceedings of the 19th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, 2024, Rome, Italy. doi: 10.5220/0012431200003660.
- "Parameter-Free and Improved Connectivity for Point Clouds" - **Diana Marin**, Stefan Ohrhallinger and Michael Wimmer. In: Eurographics 2023 - Posters. doi: 10.2312/egp.20231023.

- "SIGDT: 2D Curve Reconstruction" - **Diana Marin**, Stefan Ohrhallinger and Michael Wimmer. In: Computer Graphics Forum (Pacific Graphics 2022, Kyoto, Japan). doi: 10.1111/cgf.14654.
- "SIG-based Curve Reconstruction" - **Diana Marin**, Stefan Ohrhallinger and Michael Wimmer. In: Eurographics 2022 - Posters. doi: 10.2312/egp.20221013.
- "SIGnificant Outlier Removal" - **Diana Marin**, Filip Ilic, Stefan Ohrhallinger, Michael Wimmer. To appear in: Springer Communications in Computer and Information Science.
- "SCAN2BEAMS: Moving towards Automated Modelling and Analysis of Structural Industrial Building Stock" - Julia Reisinger, **Diana Marin**, Philipp Rufinatscha, Peter Kan. To appear in: 2025 European Conference on Computing in Construction.

TECHNICAL STRENGTHS

Programming Languages	C, C++, Python
Game Engines	Unreal Engine, Unity
Others	OpenGL, Vulkan, Git, LaTeX

CONFERENCE AND EVENT ORGANISATION

- **International Program Committee Member** for the International Symposium on Vision, Modeling, and Visualization 2025.
- **Reviewer for multiple conferences**, including: Eurographics, International Conference on 3D Vision, International Symposium on Vision, Modeling, and Visualization.
- **Organizer and International Program Committee Member** for the Central European Seminar on Computer Graphics - CESCG (2022 - present).
- **Organizer of game development events**: yearly jam sites for the Global Game Jam, and one instance of Game Jam Plus (2018 - present).

TEACHING

- Programming Techniques for Visual Computing, *TU Wien*, 2024-2025.
- Computer Graphics Lab, *TU Wien*, 2022-2023.
- Teaching Assistant for Computer Graphics, *University of Leeds*, 2021.
- Supervised multiple students with projects, Bachelor's theses, Master's theses, and publications.