

# PHILIPPE WEIER

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📄 [Philippe Weier](#)

🎧 [WeiPhil](#)



## Education

- 2021 – Now**     **PhD Student**, Saarland University (Universität des Saarlandes), Germany  
Computer Graphics Lab, advised by Prof. Dr.-Ing. Philipp Slusallek  
*Focus : Efficient Light Transport Simulation, Differentiable Rendering, Appearance Modelling*
- 2017 – 2020**     **Master in Computer Science Engineering**, EPFL, Switzerland.  
Advanced Computer Graphics, Digital 3D Geometry Processing, Mathematical Foundation of Signal Processing, Distributed Algorithms, Signal Processing for Communications, Machine Learning, Cryptography and Security, Audio Signal Processing and Virtual Acoustics.  
**Thesis: Optimised Path Space Roughening**
- 2016 – 2017**     **3rd year Bachelor in Computer Science Engineering**, University of Granada , Spain  
Computer Graphics, Operating Systems, Digital Image Processing, Software Engineering, Artificial Intelligence, Multiprocessor Architecture, Network Security.
- 2014 – 2016**     **1st and 2nd year Bachelor in Computer Science Engineering**, EPFL, Switzerland.  
Algorithmic, Computer Architecture, Functional Programming, Parallelism and Concurrency, Probability and Statistics, System Oriented Programming.

## Experience

- 2022 May - Now**     **Research Intern**, Intel Graphics Lab, Germany  
Working on neural representation for appearance filtering and level of details  
Supervised by Anton Kaplanyan and Lingqi Yan
- 2020 - 2021**     **Rendering Researcher**, Weta Digital, New Zealand  
Worked on the in-house physically-based renderer Manuka
- 2020 Feb - Aug**     **Research Intern**, Weta Digital, New Zealand  
Developed an improved formulation of roughening designed for production scale scenes in Manuka  
Supervised by Johannes Hanika, Marc Droske and Wenzel Jakob
- 2019 Sep - Dec**     **Research Student**, Realistic Graphics Laboratory (EPFL), Switzerland  
*Mesh-based pre-filtering of Complex Assets*  
Supervised by Guillaume Loubet and Wenzel Jakob
- 2019 Feb - Aug**     **Research Intern**, Unity Labs Grenoble, France  
*Efficient Rendering of Anisotropic Layered Materials using an Atomic Decomposition with Statistical Operators*  
Supervised by Laurent Belcour
- 2017- 2019**     **Teaching Assistant**, EPFL, Switzerland  
Assisted the Professor with course, homeworks and exam material preparation in Computer Networks.
- 2018 Jul - Sep**     **Research Intern**, ELCA Informatique SA Lausanne, Switzerland  
Designed and Implemented a Secure Voice Authentication Mobile Application using modern Machine Learning techniques for Android and iOS.

## Publications

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| 2022 | <b>EARS: Efficiency-Aware Russian Roulette and Splitting</b><br><i>ACM Transactions on Graphics (Proceedings of SIGGRAPH 2022)</i><br>Alexander Rath, Pascal Grittmann, Sebastian Herholz, Philippe Weier, Philipp Slusallek |
| 2021 | <b>Optimised Path Space Regularisation</b><br><i>In Computer Graphics Forum (Proceedings of Eurographics Symposium on Rendering)</i><br>Philippe Weier, Marc Droske, Johannes Hanika, Andrea Weidlich, and Jiří Vorba.       |
| 2020 | <b>Rendering Layered Materials with Anisotropic Interfaces</b><br><i>In Journal of Computer Graphics Techniques</i><br>Philippe Weier, Laurent Belcour   |

## Personal Projects

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| 2020 - Now | <b>Taranaki</b><br>A physically-based toy renderer in Rust developed in my free time.   |
| 2019       | <b>Qulkan</b><br>A GPU Oriented Prototyping tool in modern C++17 with a simple and flexible interface for more complex software or research validation tools.                     |
| 2018       | <b>Procaryota</b><br>A 2D space-shooter like game in C# made for fun in Unity.  |
| 2018       | <b>Lotr Army Companion</b><br>An unofficial companion app for the table-top game Lord of The Rings. A full stack web application written in Javascript (React), MySQL and Python. |

## Skills

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### Programming

- C++ (Cuda, Vulkan)
- Rust
- Python
- C#, C (Embedded), Scala, Java
- Assembly (MIPS, ARM)
- Javascript (React), HTML, CSS, MySQL

### Code Quality

- Continuous Integration, Tests
- Git, Docker

### Languages

- French, Swiss German (Mother Tongues)
- Spanish (fluent)
- German (fluent)
- English (fluent)