PHILIPPE WEIER

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in Philippe Weier
○ WeiPhil

Education

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: *A Path Space Formulation for Automatic and Optimal 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

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 Applicaction using modern Machine Learning techniques for Android and iOS.

Publications

2020 **Rendering Layered Materials with Anisotropic Interfaces,** Journal of Computer Graphics Techniques
Philippe Weier, Laurent Belcour

Personal Projects

2020 - Now **Taranaki**
A physically-based toy renderer in Rust developped in my free time.

2019 - Now **Qulkan**
A GPU Oriented Prototyping tool in modern C++17 with a simple and flexible interface for more complex software or research validation tools.

2018 **Procaryota**
A 2D space-shooter like game in C# made for fun in Unity.

2018 - Now **Lotr Army Companion**
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

Programming
- *C++*
- *Python (Pytorch, Tensorflow)*
- *Rust*
- C# ,C (Embedded), Scala, Java
- VHDL, 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 (almost fluent)