

SEBASTIEN SPEIERER

sebastien.speierer@epfl.ch
(079) 372 95 31

PROFILE Master's Student in Computer Science with a focus in Computer Graphics

EDUCATION

Swiss Federal Institute of Technology Lausanne (EPFL) - Switzerland

September 2012 - July 2015 – Bachelor in Communication Systems: GPA 5.62 / 6

Object-Oriented Programming Language (Java), Functional Programming (Scala), Algorithms, Concurrency, Digital Photography

September 2015 – July 2018 – Master in Communication Systems: Signals, Images and Interfaces

Advanced Computer Graphics, Parallel and high-performance computing, Image Processing, Distributed Algorithms, Intelligent Agents, Reinforcement Learning in Neural Networks, Pattern classification and machine learning

Carnegie Mellon University (CMU) - USA

August 2014 - May 2015 – Exchange senior year in Computer Science: GPA 3.53 / 4

Computer Graphics, Artificial Intelligence, Applied Stochastic Processes, Fundamental of Signal Processing

EXPERIENCE

Pixar Animation Studios

July 2016 - December 2016 – Software internship in *Tools Rendering* department

Conducted design and research on extending the capabilities of Pixar's lighting and rendering systems. My main task was about eye illumination effects, in particular caustics and gleams from the cornea onto the eyeball. After exploring various published approaches such as manifold explorations, my work consisted in deriving my own methods and implementing them in Pixar's tools.

PROJECTS

- Metropolis Virtual Point Light Rendering – Semester project with Prof. W. Jakob (Spring 2016)
Development of a new real-time preview system for the Mitsuba renderer (coding in C++, OpenGL 4.x)
- Physically-based renderer development - <https://github.com/Speierers/Cpp-Rendering-Engine>
Implementation of a multi-threaded path tracer using multiple importance sampling (coding in C++, Boost library)
- Raymarching renderer for 3D fractals rendering
Implementation of a GPU ray marcher as project for a HPC course (coding in C and CUDA)
- Virtual Traffic Light research project with Prof. Ozan Tonguz at CMU (2014)
Research project on a distributed traffic light system based on vehicle-to-vehicle communications (coding in Python)
- KDevelop IDE open source project (Spring 2015)
Facebook Open Academic project based on improving the KDevelop IDE (coding in C++)
- Teaching Assistant – Introduction to Computer Graphics with Prof. M. Pauly
- NOX Music Production - <https://soundcloud.com/noxmusicproduction>

AWARDS

- 3rd best Bachelor in Communication Systems at EPFL (2015)
- Carnegie Mellon University Dean's List (Spring 2015)

SKILLS

- C++, CUDA, Python, C, Java, Scala, Bash
- OpenGL, GLSL, Git, Visual Studio, Katana, Maya, Qt, Matlab, Mathematica, LaTeX, Microsoft Office, Windows, Linux
- French (mother tongue), English (fluent), German (beginner)
- Classical Piano Degree (2013)