

Computer Science Research Student Software Engineer

WORK EXPERIENCE

03/2019 - 09/2019 **Software Engineer Intern at NVIDIA - U.S.A**

Worked on performance and memory footprint optimization for their OpenGL driver. As a result, we saved several MB on the Android userland driver. As a side project I also proposed and completed a new internal profiling tool for our specific environment.

01/2017 - 08/2019 **Student researcher - System & Graphics - France**

Worked in my school laboratory on several subjects. Including a multi-threaded ray-tracer (**KD-Tree + photon-mapping**) (Go), a **bi-directional path-tracer** (C), and a 32bit kernel with segmentation and PCI support (C, assembly)

05/2018 - 08/2018 **Google Summer of Code with QEMU: Vulkan-ize VirGL**

Guests running in QEMU can use Virgl3D to run an **OpenGL** application on the host. However, **Vulkan** support is missing. My mission is to add a partial support for this API. This includes contributing to **MESA & Virglrenderer**.

01/2018 - 07/2018 **Teacher at EPITA - Kernel development - France**

Bachelor class students. Taught how to develop a 32bit kernel, with segmentation, userland and VGA/ISO support (C, assembly).

09/2017 - 01/2018 **Software engineer intern at Photospace - France**

Achieved a real time video processing pipeline for a military grade submarine. Written in **C++** and using **Cuda**, this pipeline had to process and record up to 4 video streams (4K, HD, SD)

05/2017 - 08/2017 **Google Summer of Code with QEMU: VirtIO-GPU driver for Windows**

Developed an **OpenGL PoC driver** for a Windows guest running on **QEMU**. This included an userland state-tracker, and a **kernel driver** to talk to the para-virtualized device. As a result, a sample OpenGL application could run on the guest.

06/2016 - 08/2016 **Intern at Trimaran - France**

Delivered a real-time 3D viewer for the Vendée-Globe race (sailing). Running in **Unity**, and featuring dynamic ocean, weather, and buoyancy. This module was successfully integrated to the main application, and convinced the company to move from OGRE3D to Unity.

PERSONAL PROJECTS

2018	Path-tracer with KD-Tree and photon-mapping
2018	CAN bus reversing on a Toyota Yaris
2017	my_Id.so: rewriting Linux's dynamic linker
2016	Unity plugin to simulate buoyancy on any object (also including dynamic ocean)
2015	Multiplayer game (FPS and RTS) - (Unity, C#)
2010	Simple 2D Game engine (SDL, C++)

EDUCATION

2014 - 2019	MS in Computer Engineering at EPITA - France
2015	BAFA (youth worker qualification)
2014	Baccalauréat - sciences (equivalent to A levels)

LANGUAGES

French - native
English - full professional proficiency (Toefl 990)
Spanish - basic

HOBBIES & VOLONTEERING

- Scout (16 years) - head of unit for 11-14 years old children since 2014
- Volunteer (2 years) - The Salvation Army (2013-2015)
- Cycling, Climbing (non competitive)