# Software Engineer, Ph.D.

#### Skills:

**Programming languages:** C, C++, Python, Rust, JAVA, SQL, XHTML/CSS, Javascript, Go, Rust.

Programming frameworks: Pytorch, OpenCV, Caffe, Django, Android SDK and NDK, Qt, OpenGL.

**Computer engineering:** Multimedia, 3D computer graphics, Databases, Linux.

**Mathematical tools:** Deep neural networks, machine learning, computer vision, image and video recognition, 3D mesh compression, video compression, audio compression, signal processing.

### Work experiences:

March 2016 to April 2020: R&D lead at Videolabs SAS, France.

Research and development of a video recognition application that matches medias by filming them with a mobile device. Contributions to the Mozilla and Intel open source AV1 video encoders (rav1e and SVT-AV1). Development of VR support in VLC Media player: 360° video, 3D sound, Virtual cinema mode and VR headsets. Face recognition and audio source separation with deep neural networks. Image smart cropping and prototyping of a media recommendation platform based on metadata.

March 2014 to January 2016: CTO at Instadeo SAS, France.

Design and development of a video conference web platform based on WebRTC in Python 3 Django.

September 2013 to January 2016: Founder at Visualink SAS, France.

Development of an open source image recognition platform (<u>http://pastec.io</u>). Prototyping of a mobile video recognition system.

June 2008 to September 2015: VLC media player developer in the VideoLAN project, France.

Android port, new features (video filters, displaying of TV program tables, media library...), maintenance fixes.

2011 and 2012: Visiting academic at Cardiff School of Computer Science and Informatics, United Kingdom

*Two internships of three months to develop new algorithms for 3D mesh compression.* 

May to November 2009: Intern at EDF R&D (first French electricity provider), Clamart, France.

*Study of images and video compression standards to encode scientific visualization image streams. Prototyping of a lossless and real-time compression algorithm for remote desktop applications.* 

July to August 2008: Intern at MAS laboratory (Mathematics Applied to Systems), Ecole Centrale Paris.

Development of a prototype based on VLC Media Player for collaborative scientific visualization with a display wall and a graphic cluster.

## Education:

#### 2010-2013: **Ph.D. in Computer Science** at **MAS Laboratory, Ecole Centrale Paris**.

Subject: Progressive and Random Accessible Mesh Compression. Propositions: Three new 3D mesh compression algorithms and a polygon mesh simplification method. Results: four publications in international conferences and journals, two compression algorithms released.

2006-2009: Master of Science (Diplôme d'ingénieur) at Ecole Centrale Paris.

General engineering courses with a major in electrical engineering and computer science.

2004-2006: Preparatory classes for engineering universities at Lycée Richelieu, Rueil-Malmaison, France.

2003 -2004: Technical high school diploma at Lycée Richelieu.

#### Languages:

French: mother tongue

**English:** fluent

Spanish: beginner

## Personal interests:

Open source and free software development, startup ecosystem, cycling.