

# Simon Guillot

<https://simonguillot.com> 

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*A Software Engineer with 8 years of experience and a very strong background in machine learning and algorithms, with a keen interest in product design. Currently specialising in iOS apps development with SwiftUI and CoreML.*

## Professional Experience

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### Machine Learning Engineer @ Sevenhugs (acquired by Qorvo)

January 2018 - August 2021

**PYTHON, PYTORCH, REDIS, FLASK, SALT, KUBERNETES, DOCKER, POSTGRESQL**

- Initiated and led a project involving a computer vision algorithm based on deep neural networks for geolocation, initially done as a personal project.
- Designed the faults detection software stack on the production lines of connected devices, and managed the associated data gathering process: about 30 000 devices were manufactured without any major issues.
- Initiated and led two new projects involving machine learning applied to quality assessment for micro-modules manufacturing and faults detection.

### Software Engineer – Data Fusion & Algorithms @ Sevenhugs

February 2016 - December 2017

**C++, SWIFT, PYTHON, EIGEN, BOOST**

While working on a research project on indoor SLAM with the magnetic field, the following actions were achieved in chronological order:

- Developed a realtime, high-precision geolocation algorithm which involved: the implementation of a non-linear Kalman filter for sensors fusion, the development of bare-metal drivers for inertial sensors, the programming of an efficient and maintainable codebase.
- Specified, implemented and deployed on site the software for manufacturing benches of the production line in China: it combined machine-learning techniques, low-level software as well as a reliable backend to manage and process all extracted data.

### Software Engineer – R&D @ Invoxia

November 2013 - June 2015

**C, C++, PYTHON, ARM ASSEMBLY, BOOST, OPROFILE, PERF, MONGODB, REDIS**

- Optimised the critical points of the audio processing pipeline.
- Reviewed and implemented sound sources tracking algorithms.
- Development of production monitoring tools and acoustic tests for validation inside the factories.
- Portage of (at the time new) audio codecs like *Opus* in the *VoIP* stack.

### ESA Summer of Code @ ESA / AerospaceResearch

August 2013 - October 2013

**C++, BOOST**

Used the BOINC platform to standardise a few terabytes of images of the Virtual Archive database.

### Software Engineer Intern @ Thales Communication & Security

March 2013 - August 2013

**C++, CUDA, OPENCL, TBB**

- Reviewed and implemented state-of-the-art fingerprints and iris comparison algorithms for border control.
- Ported 3 pre-existing algorithms on *GPU*. For fingerprints comparison, the increase in speed was by a factor of 30x while reducing the error rate by 25% due to targeted tuning, while maintaining the same hardware cost.

## Education

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### MSc. in Computer Science @ Université Pierre et Marie Curie, Paris

2015 - 2016

**MAJOR IN MACHINE LEARNING**

### Engineering Degree in Computer Science @ EPITA, Paris

2008 - 2013

### Bachelor's degree @ Griffith College, Dublin

January 2010 - May 2010