

Simon Guillot

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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

Freelance Software Engineer

Since April 2021

iOS, SWIFTUI, COREML, PYTORCH, PYTHON

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

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