

Francesco Fucci

Software Engineer



August 3, 1987



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EU Citizenship

Social Network



Github Page



LinkedIn Page

Languages



Italian



English



French



Programming

» C++ (11/14/17)

» Julia

» C

» Python

Learning

» Rust

Working Experience

2021 – now

Lead Software Engineer

ASML

Experience in leading team of 4-6 people. Prepare design documents, define tasks that team member can execute, perform code-reviews and design reviews. Individual contributor in different components of ASML archives. Contribution to the design of a library for tensor-based operations (i.e. einsum) using template-meta programming.

2019 – 2021

Software Design Engineer

ASML

- Development of calibration application for NXE machines (**Python/C++**)
- Development of a quadratic programming interior point solver in **Julia** and in **C++**.
- Refactoring of legacy C++ components to newer standards. Definition of the architecture of software components for new ASML machines, using **C++ 11**. Analyzed code performance with statistical benchmarks (i.e., Google Microbenchmark)

2015 – 2019

Senior Software Engineer

Critiware

- Contributed to the design of the plasma control system, which will be the control software system responsible of controlling part of the plant systems of the ITER Machine (<https://www.iter.org>). Design of the system using Model-Driven Design approaches from requirements analysis to structural solution. Contributed to the implementation of real-time software prototype in (**C++14**) on Linux RHEL 6.
- Development of tools to assess the tolerance to software errors, which is now used in production to assess Android OS low-level code using (**C++11**).
- Tools for the analysis of post-drive run for trains (Java, Eclipse RCP Dependency Injection Framework).
- Developed a DSL to aid developers to assess Python code.

2011 – 2012

Software Engineer

SESM

Toolchain tailoring automatic code generation of test code for ATC applications.

Education

Postgraduate Training

2013 – 2014

PhD Research Internship

EPFL

I contributed on the development of components for a platform for the automated analysis of systems code. I developed an interpreter in C++, which executes symbolic expressions. The project is available at the following address: [S2E](#)

Francesco Fucci

Software Engineer

About Me

I enjoy building systems and learning new things. Currently my favorite topics are modern programming languages, system design, quantitative methods. I worked in several domains from railways systems, fusion, and lithography machines.

Design Skills

- » Agile Software Design: SOLID, Design Patterns
- » Numerical Optimization
- » Machine Learning
- » Deep-Learning
- » Operating Systems
- » Systems Design

Other Skills

- » MATLAB
- » Git
- » Jenkins
- » Boost
- » Tensorflow
- » Keras

Keywords

Agile

Team-oriented

Quick-learning

AI

Collaboration

Goal-oriented

Academic

2012 – 2015

PhD Computer Engineering

UNINA

Thesis: Model-based verification of Operating Systems device drivers. In my thesis I explored different techniques for automatic verification of device drivers like runtime verification and symbolic execution.

2009 – 2011

Master Degree Computer Engineering

UNINA

I developed an approach based on the reinforcement learning paradigm with the aim of generating state driven workload, for fault injection purposes.

2005 – 2008

Bachelor Degree Computer Engineering

UNINA

During my B.Sc thesis i was involved in the creation of a tool for online monitoring of Linux kernel's part using an hypervisor based architecture to detect hangs in device drivers.

Personal Projects

Match

Matching-Engine in Rust. [link](#)

IEX feed

Feed reader for TOPS IEX trading protocol. [link](#)

M-Opt

A C++ framework to price options with Montecarlo method (ongoing project). [link](#)

SLANG

A DSL to specify contracts for device driver verification (C++, Boost, Java).

Talks

JuliaCon 2022

Towards Using Julia for RealTime applications at ASML

C++Day 2019

Principles of algorithm design in STL

Awards

2006–2007

Best Student Award

Best student of the of University of Napoli “Federico II” Computer Engineering faculty.