

Francesco Mecca

Date of Birth	31 st October 1995	Personal Blog	francescomecca.eu
Nationality	Italian	Github	FraMecca
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Italian expat currently living in London. I have a broad interest in **computer science** and software **engineering**. I have talent for **writing** and **communication**, enhanced by my **people skills**. Topics I would like to explore if given the possibility: **project management**, **teaching**.

Work Experiences

09/2020 [Symmetry Investments](#)
ongoing *Research Developer*

I am currently working for Symmetry Investments, a hedge fund operating in Hong Kong, London, Singapore and Jersey. I work primarily as a researcher for the functional DSL used in the firm. My topics of research and development encompass functional programming concepts, type inference and type systems, virtual machines, and language semantics. Another relevant part of the job is supporting practitioners (quant, analysts and traders) with programming related tasks, such as code reviews, project management, software development practices and it requires domain specific knowledge. In addition to this I am involved in the hiring process and interview candidates regularly.

10/2019 [Inria, Parsifal team](#)
03/2020 *Intern*

For a period of six months I worked on my master thesis regarding the translation validation of the pattern matching compiler for the OCaml language. My work was supervised by [Gabriel Scherer](#) and is published on [Github](#). During the internship, Gabriel and me worked on a [workshop submission](#) that got accepted at [ICFP2020](#).

10/2018 [Symmetry Autumn of Code](#)
01/2019 *Participant*

Symmetry Investments sponsored my work on a concurrent garbage collector for the [D runtime](#) as part of the Symmetry Autumn of Code initiative. I worked under the mentorship of Leandro Lucarella of Sociomantic. All of my work is open source and accessible from my github account. A blogpost summing up the effort can be read [here](#). With the help of other D contributors the work was merged in [D 2.098.0](#).

01-2018 [Nexa Center for Internet and Society](#)
12-2018 *Junior Research Fellow*

I worked as a researcher at the Polytechnic of Turin for the Nexa Center for Internet and Society. I developed the web education platform [EduHack](#) under the supervision of [Professor Juan Carlos De Martin](#). The work was [presented](#) at the [OWLTEH 2018 conference](#) at Coventry university.

10/2017 [UCSB Security Lab](#)

04/2018 *Research Assistant*

Starting October 2017 until April 2018 I worked as a research assistant for [Professor Giovanni Vigna](#) and the [Shellphish team](#) at the security lab of the University of California Santa Barbara (UCSB). The focus of my research was the exploitation and weaknesses of machine learning models applied to malware detection. On February 2020 the resulting [publication](#) got accepted at [NDSS'20](#).

09/2016 [Free Architecture for Remote Education](#)

06/2017 *Backend Developer*

FARE (Free Architecture for Remote Education) is a e-learning environment developed at the Polytechnic of Turin for the professors [Angelo Raffaele Meo](#) and [Marco Mezzalama](#) by me and [Leonardo Favario](#). FARE is currently used as a learning platform for the developing of MOOCs and remote lessons for hospitalized children. FARE won the second prize in the contest "Talent Italy" indicted by MIUR, Ministero dell'istruzione, dell'università e della ricerca, [Italian ministry education, university and research](#).

06/2016 [Berkman Klein Center for Internet and Society](#)

09/2016 *Intern*

During Summer 2016 I worked as an intern for the Berkman Klein center of the Harvard University (Cambridge, Massachusetts) with the collaboration of the Nexa Center for Internet and Society of the Polytechnic of Turin where I developed the Network of Centers Semantic Wiki. During the period I attended classes at [MIT](#) and [Harvard](#).

Publications

- Mecca, F. and Scherer, G.. [Translation validation of a pattern-matching compiler](#). In ML Family Workshop, ICFP2020.
- Aghakhani, H., Gritti, F., Mecca, F., Lindorfer, M., Ortolani, S., Balzarotti, D., Vigna, G. and Kruegel, C.. [When Malware is Packin'Heat; Limits of Machine Learning Classifiers Based on Static Analysis Features](#). In Network and Distributed Systems Security (NDSS) Symposium 2020.

Lectures

- I was a guest at the OWLTEH2018 conference, to present the [EduHack](#) e-learning platform.
- In the year 2017 I was a speaker at [Turin International Book Fair](#) where I presented the e-learning techniques and software used at the Polytechnic of Turin.
- I [introduced](#) the work done during my internship at Harvard in a conference held by the Nexa Center for Internet & Society..

Classes

- For three years starting in 2017 I held some lectures for the bachelor course titled [Rivoluzione Digitale](#) (Digital Revolution) at Polytechnic of Turin.

Education

09/2017 M.Sc. of Computer Science in Networks and Information Systems

04/2021 *University of Turin*

Most of the classes and exams were attended in Italian. Grade: 110/110 cum laude.

10/2014 B.Sc. in Computer Engineering

07/2017 *Polytechnic University of Turin*

Most of the classes and exams were attended in English. Grade: 93/110.

09/2008 Scientific High School Galileo Galilei, Macerata

06/2014 *Sezione sperimentale piano nazione informatica: Progetto Brocca.*

Computer Science and Software Engineering Skills

- *D, Kotlin, OCaml, Python, C, Java, SQL* (by experience).
- High proficiency with Gnu/Linux OSes and the shell.
- Been using git, markdown, org-mode and LaTeX daily for , project management and personal life.
- Currently using Gentoo as my daily driver.

Most relevant books read

- H. Cormen: Introduction to Algorithms
- H. Abelson, G. Sussman: Structure and Interpretation of Computer Programs
- E. S. Raimond: The Art of Unix Programming
- J. Kurose, K. Ross: Computer Networking: A Top-Down Approach
- J. Gudstedt: Modern C
- A. Alexandrescu: The D Programming Language
- A. Goldberg, D. Robinson: Smalltalk-80: The Language and its Implementation
- K. Kogon, S. Blakemore, J. Wood: Project Management for the Unofficial Project Manager

Certifications

09/2014 CAE - Certificate of Advanced English: level C1/C2