Francesco Mecca

		Personal Blog	francescomecca.eu
Date of Birth	31st October 1995	**Github**	FraMecca
Nationality	Italian	**Email**	me@francescomecca.eu

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 ongoing

Symmetry Investments
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 03/2020

Inria, Parsifal team
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 01/2019

Symmetry Autumn of Code
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 12-2018

Nexa Center for Internet and Society
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**
06/2018	*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 **04/2021**	M.Sc. of Computer Science in Networks and Information Systems *University of Turin*

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

10/2014 **07/2017**	B.Sc. in Computer Engineering *Polytechnic University of Turin*

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

09/2008 **06/2014**	Scientific High School Galileo Galilei, Macerata *Sezione sperimentale piano nazione informatica: Progetto Brocca.*

Computer Science and Software Engineering Skills

- *D, Kotlin, OCaml, Python, C, Java, SQL* (by experience).

- High proficency 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