

Raffaele Rainone

Curriculum Vitae

Portsmouth, UK
✉ raff.rain@yahoo.it
📁 [raffo85h.github.io](https://github.com/raffo85h)
GitHub

PERSONAL INFORMATION

Date of Birth December 12, 1985
Place of Birth Battipaglia (SA), ITALY
Citizenship Italian
Languages Italian (mother tongue), English (fluent)

PROFESSIONAL CAREER

- Jan 2016 – now Data Scientist, **Flight Data Services Ltd.**, Whiteley UK.
- Machine learning (Python, R, PostgreSQL) - diagnostics, process optimisation and inference.
 - Large-scale multivariate time-series analyses/machine learning (Apache Spark, Python, R).
 - Development and implementation of novel algorithms: safety, maintenance, fuel consumption.
 - Data visualization (Python, D3).
 - Aircraft FDR (black-boxes') signal analysis; risk modelling.
 - Delivering data-driven operational insights to airlines.
 - Promotion of safety concerns and sharing knowledge at flight safety conferences.
- Jan 2015 – Nov 2015 RF/DSP Developer, **Path Intelligence Ltd.**, Portsmouth UK.
- Python, C++ developer.
 - Code review of other developers using tools such as Phabricator and Arcanist.
 - Worked on WiFi location algorithm, which translates raw data collected by units' WiFi scan into location analytics. Tasks included bug fixing, optimisation of existing code, developing new features, adding unit tests, analysing WiFi data in order to improve existing Bayesian Model.
 - Designed and developed a full automated testing and provisioning system for QA of units - mainly developed in Python, along with the development of GNURadio blocks in C++.
 - Designed and developed tests to assess the behaviour of WiFi scan of units, in order to gain a better understanding of how to interpret the data collected.
 - Constant interfacing with Data Science team to share discoveries on units WiFi-related research.
- Oct 2010 – Jan 2014 Graduate teaching assistant and Instructor. University of Southampton, UK

KEY SKILLS

I am a technology enthusiast with an analytical mind and a strong problem solving attitude. I can learn new concepts and tools extremely quickly. In fact, I am willing to learn and to expand my knowledge of programming languages to develop clean, robust and scalable code.

I can work on several projects at the same time and I possess good time management skills, e.g. I can easily reorganize my work prioritizing new tasks.

IT SKILLS

Operating Systems: *Windows*, *MacOS* (7 years of experience), *Linux* (6 years of experience).

Script: Bash.

Programming Languages: *Python* & *C++* (working knowledge), *Fortran 77* (several projects delivered for undergraduate exams), *JavaScript* (1 year of experience), *Objective-C* (2 months experience), *MatLab* & *GAP* (3 years of experience - used during the PhD).

Markup Languages: HTML and CSS (1 year of experience), \LaTeX (working knowledge: theses, reports, articles, presentations; 7+ years of experience).

Others: *Mathematica* (4 years of experience).

ACADEMIC CAREER

- Oct. 2010 - **Ph.D. Mathematics**, *EPSRC Doctoral Training Award*, University of Southampton, UK.
Mar. 2014 THESIS: “*Geometric actions of classical algebraic groups*”, supervisor: Dr. T. C. Burness.
- Sep. 2009 - **2nd year M.Math. International Master ALGANT (European grant)**, *Mathematisch Instituut*, Universiteit Leiden, The Netherlands.
Jul. 2010 THESIS: “*On the inverse problem for deformation rings of representations*”, supervisor: Prof. B. De Smit.
- Oct. 2008 - **1st year M.Math. International Master ALGANT**, *Dipartimento di Matematica Pura e Applicata*, Università di Padova, Italy.
Jul. 2009
- Oct. 2004 - **B.MathSc., grade 110/110 cum laude**, *Dipartimento di Matematica e Applicazioni*, Università di Napoli “Federico II”, Italy.
Mar. 2008
- 2004 **High school degree (equivalent to GCSEs and A-levels)**, *Liceo Scientifico “E.Medi”*, grade 89/100, Battipaglia (SA), Italy.

COMMUNICATION AND INTERPERSONAL SKILLS

Able to explain complex ideas to non-technical people, and to calibrate a talk to suit the audience.

- Data science Several talks about statistics delivered to **Flight Data Services**. Talks to external conferences:
○ **PyData London**, 08/05/2016. Title: “Python flying at 40,000 feet”.
- Several conferences attended (**PhD**) Several international conferences attended in the period 2009 - 2013 (e.g. France, Israel, Italy, The Netherlands, UK). In most of these meetings **I delivered a talk**.
- Teaching **Graduate Teaching Assistant/Instructor** at University of Southampton (2010–2014):
experience (**PhD**) several tutorials classes (both elementary and advanced courses). Responsibilities comprised:

AWARDS AND OTHER ACTIVITIES

- Mathematics During the secondary school (2001–04), I took part to the “*Campionati internazionali di giochi matematici*”. I reached the **National Final** in the years 2003 and 2004.
- Awards and scholarship **Academic prize** for high grades average 2005 and 2006. **ALGANT scholarship** 2009. **EPSRC Doctoral Training Award** 2010/13.
- Music I studied and I can play (with a range of skills) violin, guitar and ukulele.
- Travel I love traveling, explore new places and discover new cultures. I have had the opportunity to visit several countries: Belgium, Croatia, England, France, Israel, Netherlands, Scotland, Slovenia, Spain, Switzerland, Tunisia.