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25 July 1995
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EDUCATION

2013 - 2016 **BA in Mathematics at Oxford University -   First Class Award**

1st year:	2nd year:	3rd year:
Groups and Group Actions	Linear Algebra	Topology and Groups
Linear Algebra	Differential Equations 1 and 2	Algebraic Curves
Analysis	Metric Spaces and Complex	Algebraic Number Theory
Probability	Analysis	Banach Spaces
Design and Analysis of	Rings and Modules	Hilbert Spaces
Algorithms	Integration	Information Theory
Functional Programming	Probability	Martingales Through Measure
(Haskell)	Topology	Theory
Imperative Programming	Number Theory	Continuous Martingales &
(Scala)	Graph Theory	Stochastic Calculus
	Projective Geometry	

2005 - 2013 **High School - Grande Colégio Universal**

WORK EXPERIENCE

Jun - Jul **Oxford University Research Project**
2016 Elliptic Curves are an essential tool in Cryptography and Number Theory. During this project I used SageMath to populate a database with Elliptic Curves and their properties in order to analyse the asymptotic behavior of certain properties as the height of the elliptic curves increases.

Jul – Sep **Farfetch**
2015 Summer Internship where I applied self-taught Machine Learning techniques to solve a commercial problem. The project I initiated was continued by other employees. I used Python, Microsoft Labs, Microsoft SQL and R. This resulted in a published paper with Nuno Carneiro (avaiable for perusal on request).

ACADEMIC EXPERIENCE

10th Mar 2012 **Hands on Particles**
Masterclasses on Particle Physics organized by the *European Particle Physics Outreach Group*
Participant

2010 - 2013 **Delfos Project** (Mathematical Weekend School for pre-University students)
Met many friends with whom I still share mathematical insights and interesting problems.
Developed the ability to work on a problem for several hours without losing motivation.

July & August **London International Youth Science Forum**
2014 Participant - Entry funded as a prize by the Calouste Gulbenkian Foundation.

5th Nov **G-Research Algorithmic Trading Competition** (Stock Exchange Simulator)
2014 Each team had to write a micro transaction manager algorithm, and then we would all compute live with stock values based on a random real sample
1st Place

June & July **Computing the Average Rank of Elliptic Curves** (Summer Project at Oxford University)
2016 I used Sage Math and its Elliptic Curve related packages to compute the average Rank of Elliptic Curves under an ordering based on the height of its coefficients. We were trying to observe the rank's asymptotic behaviour and compare it with the Birch and Swinnerton-Dyer conjecture (one of the Millennium Prize Problems).

SKILLS

IT	Theoretical basis in Imperative Programming (Scala), Functional Programming (Haskell) and Design and Analysis of Algorithms. Medium proficiency in Python. Basic proficiency in C++ and Haskell.
Software	Microsoft Office, Open Office, Anaconda & Jupiter Notebooks, Mathematica, SketchUp, R.
Driving License	Category B

OLYMPIADS

May 2009	**Portuguese National Chemistry Olympiad** (Silver Medal)
November 2010	**Paulista Math Olympiad** (Bronze Medal)
March 2012	**Portuguese National Math Olympiad** (Gold Medal)
July 2012	**Portuguese Speaking Countries Math Olympiad** (Silver Medal)
November 2012	**Paulista Math Olympiad** (Silver Medal)
March 2013	**Portuguese National Math Olympiad** (Bronze Medal)
August 2013	**Portuguese Speaking Countries Math Olympiad** (Gold Medal)
September 2013	**Ibero-American Math Olympiad** (Bronze Medal)

LANGUAGES

Native/Bilingual Proficiency	**Portuguese** **English**
Basic Proficiency	**Spanish** **French**

INTERESTS & ACTIVITIES

Puzzles	I enjoy spending hours on riddles. This includes working with Lego, coding problems, developing the optimal strategy for board games, real time strategy PC games, wondering about philosophical paradoxes, amongst others.
Sports	Oxford University Handball team 2014-present Oxford University Quidditch team 2013-2014 College level Football, Basketball and Pool

REFEREES

João Sousa	Physics PhD, University of Aveiro (2014) Data Scientist at Farfetch, Portugal, joao.gomes@farfetch.com
Richard Earl	Director of Undergraduate Studies, Mathematical Institute, University of Oxford, richard.earl@maths.ox.ac.uk Tutor in Mathematics and Tutor for Admissions, Worcester College, University of Oxford.