

# Ali Farzanehfar

PH.D STUDENT

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## Education

### Imperial College London

London - United Kingdom

PH.D IN COMPUTATIONAL PRIVACY AND COMPUTATIONAL SOCIAL SCIENCE

Dec. 2016 - Present

- Awarded **scholarship** of £130,000 (versus the typical £70,000) due to academic merit
- Research projects include:
  - Quantifying the impact of AI on competitive insurance markets with real pricing models
    - \* Developed a simulation of 10,000 different insurance markets as a feasibility study in **Python**
    - \* **Led a team of 4** researchers over 1 year in crafting the experiment design
    - \* **Maintained contact with 4,000 actuaries** over 3 months to encourage participation in research
  - Estimating the re-identification risk of very large (60M) mobility data sets (mobile phone data)
    - \* Created an intuitive mathematical model, empirically showing the ineffectiveness of data anonymization
    - \* **Designed 4 experiments** that highlight poor privacy definitions in **public policy**
    - \* **Developed an algorithm** that tripled the capacity of the mobility model
- 4 high-profile talks (70+ people), including at the **European Commission** and the **FCA**, on privacy ([linked](#))

### University of Cambridge

Cambridge - United Kingdom

COURSES IN APPLIED MATHEMATICS

Oct. 2015 - Jun. 2016

### University of Southampton

Southampton - United Kingdom

MASTERS IN HIGH ENERGY PARTICLE PHYSICS (**FIRST CLASS HONOURS**)

Oct. 2011 - Jun. 2015

- Won "**Best research thesis**" award for anomaly detection algorithm developed at CERN
- Awarded **scholarship** worth £22,600 based on academic merit
- Awarded **CERN placement** as one of the top three students in class of 200+ (**98.5<sup>th</sup> percentile**)

### Oxford Brookes University

Oxford - United Kingdom

INTERNATIONAL FOUNDATION DIPLOMA IN LIBERAL ARTS (**FIRST CLASS HONOURS**)

Feb. 2011 - Sep. 2011

- **Excellence of Achievement** award for project on *The Dangers and uses of AI Technology*

### Moheb e Safa High School

Tehran - Iran

PRE-UNIVERSITY CERTIFICATE (**TOP 0.3% OF 300,000 STUDENTS NATIONALLY**)

Sep. 2008 - Sep. 2010

## Experience

### Opportunity International

London - United Kingdom

CONSULTANT / ALGORITHM DESIGN

Jun. 2018 - Dec 2018, Sep. 2019 - Present

- Goal: Develop a credit scoring algorithm to **grant school-fee loans to low-income families** in Uganda
  - Used cutting edge **machine learning** techniques (boosted decision tree)
  - **Reduced bank costs** by speeding up loan decision process (**21 days to 1 day**)
  - Had critical input on **expansion strategy** into the Pakistan market
  - **Created a standard** for bank-loan data collection to aid their digitisation strategy

### The CMS Experiment, CERN

Geneva - Switzerland

RESEARCH ASSISTANT FOR THE CMS ELECTROMAGNETIC CALORIMETRY GROUP

Sep. 2014 - May. 2015

- Research task: Discover the root cause of anomalous signals in the CMS detector
  - Discovered the cause by conducting **3 iterative physical experiments** at 2 CERN facilities
  - Built a detection algorithm for anomalous signals using a **large-scale simulation** (C++)
  - **Helped save €5M** by delaying the need for an upgrade for 5 years

### Imperial College London

London - United Kingdom

TEACHING ASSISTANT: BIG DATA, INTRODUCTION TO MACHINE LEARNING, CODING FOR MEDICS

May. 2017 - Present

- **Designed course material and taught 200+ students** at both Undergraduate and Masters level

### Founder / President of Capoeira club

Southampton - United Kingdom

UNIVERSITY OF SOUTHAMPTON

Oct. 2012 - Sep 2014

- Founded and led the growth of the club **from 5 to 150 members in 2 years** (club is still active)