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# Peter Ferguson

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Occ.: Data Engineer & Scientist  
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## Profile

I am a diligent scholar who relishes challenging work and opportunities to learn. I have excellent communication skills and proven teamwork and leadership skills. I am eagerly seeking an opportunity to work in a leading machine learning team.

## Education

Oct. 18 – Jun. 19    **MASt, Applied Mathematics, *University of Cambridge***

Degree Class:

**Pass** ([Transcript](#))

Master's Thesis Title:

[‘Exploring the Underlying Geometry of Kaluza-Klein Dimensional Reduction’](#)

Oct. 14 – Jun. 18    **MSci Hons, Theoretical Physics and Mathematics, *Lancaster University***

Degree Class:

**First** ([Transcript](#))

Master's Thesis Title:

[‘Optimal Measurement-Only Topological Control of Majorana-Based Single Qubits’](#)

Awards:

Physics Prize in 2015, 2016 and 2017 (within top 4 students of each year)

Research Academy Prize 2018

Best Overall Degree Performance 2018 (1st in graduating class)

Aug. 13 – Jun. 14    ***Avon Old Farms School, Connecticut, USA*** ([ESU Scholarship](#))

GPA: 4.0

Advanced Placements: AAA    *Chemistry, Physics and Calculus*

Honors Classes: AAA    *Python Programming, American Literature and Biotechnology*

Academic Awards:

Cum Laude Society

Founder's Medal (Within top 5 students that year)

Headmaster's List

Aug. 06 – Jun. 13    ***St Mary's Christian Brothers Grammar School, Belfast***

A-levels: A\*AAA    *Maths, Further Maths, Chemistry, Physics*

GCSE: 11 A\*-B    *Including English and Maths*

Awards:

Mathematics Award for A-level

Outstanding Performance Award for A-level and GCSE (Within top 5 students at both levels)

## Experience

Oct. 19 – Present    **Data Engineer & Scientist, *Insurance Office of America***

- Currently prototyping a PDF data extraction tool using **OpenCV**, **NLTK** & **TensorFlow**. This project involves both **NLP** & **Computer Vision**.
- Created a record-linking **active learning** model using the **dedupe** python library.

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For correctly identifying unique customers and their renewals.

- I am building a binary classifying retention model for auto insurance customers using **Scikit-learn**, **TensorFlow**, **Keras**, **Python** and **Swift**.
- Part of a team of three that has architected, built and maintained streamlined data pipelines. Originally in **SQL Server** which we recently transitioned to **Azure Synapse**. Technologies involved: **Docker**, **SQL**, **Python**, **SSIS**, **Azure Data Factory** and **R**.
- Performing business analysis with tools such as **PowerBI**.

Jun. 14 – Aug. 14 **Research Assistant**, *Randox Laboratories*

- Member of a team tasked with improving the standard of imaging of current CCD cameras.
  - Initially by testing new hardware, such as lenses.
  - Subsequently I was made responsible for improving software used to process images.
  - Built a ground up program, written in python, adapting the previous software written in C++.
- Resulting in a more concise code base for faster prototyping.

## Skills & Interests

### *Skills*

- Programming languages and projects;
  - **Java** Coursework: Developed a chess game with GUI,
  - Version Control: Experience with **git** and **TFS**.
  - **TensorFlow** in Practice (Coursea/deeplearning.ai course):
    - Introduction to TensorFlow for AI, Machine Learning, and Deep Learning
    - Convolutional Neural Networks in TensorFlow
    - Natural Language Processing in TensorFlow
    - Sequences, Time Series and Prediction
  - Currently teaching myself **Swift** for TensorFlow.
  - DevOps tools, such as, **JIRA**, **git**, **GitHub**, **Azure Repos** & **Azure Boards**

### *Interests*

- Member/captain of many basketball teams. Most notably;
  - Captain of All-Ireland winning schools cup team in 2012,
  - Member of the Northern Irish U18 and Irish U16 squads,
  - Member of Avon Old Farms basketball team as part of ESU Scholarship.
- Powerlifter with aspirations of competing for Ireland in the coming years;
  - Currently a member of the #2 ranked powerlifting team in Ireland,
  - Ranked as #3 U23 male powerlifter in Ireland for 2018.
  - 2018 Irish national powerlifting championship bronze medal winner (74kg class).

## Referees

### **Dr. Alessandro Romito**

Thesis Supervisor  
Lecturer in Condensed Matter Theory  
Lancaster University

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### **Prof. Alexander Belton**

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