

# Timothy Conn

## Education

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**Oxford University, Mansfield College**

**2014-2018**

**MPhys (Physics)** 2:1

**Major Options** Particle Physics, Condensed Matter Physics

**Project** Exploration of laser-induced fluorescence as a calibration tool in the SNO+ detector

**Bishop Wordsworth's School, Salisbury**

**2007-2014**

**A Levels** Mathematics A\*, Further Mathematics A\*, Physics A\*, Economics A

**GCSEs** 8A\*, 3A

## Skills and Experiences

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**Python** Used for various data analysis and machine learning tasks, including gradient boosting regressors, neural networks and SVDs. I am familiar with pandas, numpy, matplotlib and scikit-learn amongst others. In my spare time, I enjoy using python to solve mathematical puzzles from the website [projecteuler.net](http://projecteuler.net) (40+ solved as of Jan 2020).

**SQL** Mostly SQL Server. Used with large data sets (1m+ rows). Required to write multi-level, complex joins. Regularly tasked with optimising queries for performance.

**Matlab** Used for several short projects in undergraduate labs including Monte Carlo simulations and numerical solutions of Laplace's equation.

**C++, ROOT** MPhys Project, simulating laser light through the scintillator at SNO+ in order to determine the optical properties of the system.

**R** Basic data analysis and machine learning projects, primarily decision trees.

**Presentation skills** In my second year I was a finalist in the Department of Physics speaking competition (top 12/165 entries). I spoke about Liquid Fluoride Thorium Reactors. The judges were Physics Professors.

**Bon Secours Mercy Health. Data Scientist.**

**October 2018 - Present.**

- I am currently working remotely for the advanced analytics team at Bon Secours Mercy Health, a group of 40+ non-profit hospitals based in Cincinnati, Ohio.
- I work with and report to the Head of Data-Science who recruited me after we worked together during my internship in summer 2017.
- I help to produce data driven responses to their business problems. I have worked on advanced machine learning models at all stages from data preparation to modelling and testing. My work is mostly done using Python, but I regularly use SQL too.
- I am responsible for summarising and presenting our findings to clinicians, external data-scientists and C-suite executives.
- I have developed advanced understanding of medical terminology as well as Epic software.

**Ensemble Health Partners. Intern in Advanced Analytics.**

**Summer 2017**

- For 10 weeks I worked in the advanced analytics team of a revenue cycle subsidiary of Bon Secours Mercy Health.
- My work was mostly done using SQL but I also built a decision tree in R.
- Ensemble Health Partners is working towards patenting some of my work. I built a decision tree which determines the root cause of claims denied by insurers. This allows the provider to auto-appeal many denied claims and save many hours of labour. Ensemble Health Partners is now working towards patenting this process. If the patent is granted, I will be listed as an inventor.
- Our met with the CEO of Mercy Health where my work was presented. One of the key skills I developed was clearly explaining technical information to those who were less familiar with the data used to solve the business problems.