

# Matthew Knowles

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## EDUCATION

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### University of York

York, UK

*MMath Mathematics, Grade: First (Expected)*

*October. 2018 – June 2022*

- Focus on Pure Mathematics, namely algebra. Some statistics and modelling
- Third year group dissertation:

### Droitwich Spa High School

Worcester, UK

*A-Levels in Maths, Further Maths and Physics, Grades: ABB respectively*

*September. 2014 – June 2018*

## EXPERIENCE

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### Undergraduate Research Intern (Bioinformatics)

July 2020 – September 2020

*Department of Biology, University of York*

*York, UK*

- Developed a pipeline in Python to using the Burrows-Wheeler-Aligner, SAMTools to collect, sequence, align and call the peaks of ChIP-Seq data
- Further developed an R pipeline to apply machine learning libraries to the acquired data
- Identified transcription factors for further study into breast cancer treatment

### Mathematics Student Ambassador

November 2018 – March 2020

*Department of Mathematics, University of York*

*York, UK*

- Showing prospective students and parents around the university
- Answering questions about life and studying at university

### Store Assistant

October 2017 – December 2018

*WHSmth*

*Worcester, UK*

- Helping customers around the store to find the things they need
- Store maintenance, cleaning

### Reaserch Intern (Particle Physics)

July 2017 – August 2017

*School of Physics and Astronomy, University of Birmingham*

*Birmingham, UK*

- Using Python to visualise HiSPARC Cosmic ray data
- Applying statistical methods to the data to locate stars which are potential sources of cosmic radiation
- Presented results at the 6<sup>th</sup> annual HiSPARC conference at the University of Bath

## PROJECTS

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### Stock Price Prediction using Neural Networks | *Numpy, Yahoo Finance API, SciKitLearn*

September 2020

- Implemented a simple program to fetch stock price data using Yahoo Finance
- Time-series of price on close plotted using Matplotlib
- Used a recurrant nernal network to predict future stock prices

## SKILLS

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**Programming Languages:** Python, C++, R, Java, SQL, HTML/CSS

**Developer Tools:** Git, Vim, VS Code, Rstudio Server, Rstudio Desktop

**Communicative Languages:** **Fluency:** English, Norwegian **Intermediate:** Russian, German **Beginner:** Mandarin