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### -Profile-

Having completed my **BSc in Physics and Theoretical Physics** in 2017, I went on to complete my **MSc in Mathematical Modelling and Self Learning Systems** in 2020. I joined Apple at their European Headquarters at Cork in 2019.

My passion is solving hard problems through applying my extensive experience in areas such as **Data Science** and **Data Analysis**. I thrive in a high pressure environment where there is a strong culture demanding excellence in collaboration, delivering outstanding results, clear communication and continuous innovation.

I like to look for challenges that add further value through identifying new opportunities that help improve the service or product. I am now at a point in my career where I wish to find an even more demanding role in a company that has a vision for innovation and excellence.

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### - Professional Experience -

*Position:*                **Analyst**  
*Employer:*            Apple Inc. European Headquarters, Cork, Ireland  
*Duration:*            October 2019 – Present

#### **Principal Duties:**

- I joined Apple in 2019 working as part of a team of 20 focusing on preparing data for the advancement of the company's proprietary voice assistant software. This is a demanding role that requires close collaboration with my peers and management but also relies on individual innovation.
- Our team acts as the link between the customer and the engineers. I use formal semantics and logical form to determine how well classification is occurring. I work in close liaison with the engineering team to decide the future objectives of the software and to ensure that it meets and surpasses our customer expectations.

*Position:*                **Senior Tutor**  
*Employer:*            Alpha Maths Tuition  
*Duration:*            September 2017 – May 2019

#### **Principal Duties:**

- I worked as the head tutor of a privately run tutoring school in Cork city aimed primarily at older secondary students and third level students. The academic knowledge from my undergraduate degree gave me the confidence to teach challenging classes across many subjects including physics, engineering and applied mathematics.
- As Senior Tutor, I was heavily involved with and responsible for the smooth running of our daily operations and goals. I worked in close collaboration with the founder of the company to determine appropriate syllabi and notes. Since the company was in its infancy when I joined, I consider myself an important part of the company's great success to date.

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## **- Academic Background -**

### **University College Cork, MSc., 2020**

- Graduated University College Cork with a high 2:1 in the taught Master's degree Mathematical Modelling and Self Learning Systems.

### **National University of Ireland Galway, Bsc., 2017**

- Graduated NUIG with a high 2:1 in the undergraduate degree Physics and Theoretical Physics.

### **Other Achievements:**

- Received the scholarship of excellence award for outstanding academic performance in 2015.

### **Databases and SQL for Data Science by IBM, 2020**

- Became competent in all basic SQL queries along with learning how to filter, sort and group results across multiple tables.
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## **-Notable Projects-**

### **Exploring Local Learning Algorithms in the Context of Artificial Neural Networks**

- Completed the self titled thesis 'Exploring Local Learning Algorithms in the Context of Artificial Neural Networks' for the College of Mathematics in UCC during the summer and autumn months of 2019.
- For this research project, I evaluated the outcomes of adding biological plausibility to an artificial neural network on the basis of Hebbian learning algorithms.

### **Genre Classifier**

- Developed a model that creates features based on the spectral images of audio snippets and classifies them into their respective genres.
- Wrote a web scraper script that takes a URL from music related websites (e.g. Youtube, SoundCloud) and classifies this unseen data. Added HTML and deployed a web application using Flask and Google App Engine..

### **Quantitative Technical and Fundamental Analysis of Real World Stock Trends**

- Developed a script that accepts a stock ticker as a user input, then scrapes data from the financial website Morning Star for this ticker. Structured raw data to make it more suitable for analysis.
  - Wrote a script that provides useful key ratios and predictions for intrinsic value on the chosen stock ticker.
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## **- Highlight of Skills and Strengths -**

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|-----------------|--------------|--------------------------|------------------|
| • Python        | • R          | • Mathematical Modelling | • Linux          |
| • Applied Maths | • SQL        | • Statistics             | • Data Analytics |
| • ML            | • TensorFlow | • Jupyter Notebook       | • Git            |
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## **-References available upon request -**