# Barry Ryan

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## Education

**2022 – Present** University of Edinburgh – PhD Candidate – Integrating omic datasets for heterogenous disease classification using graph neural networks
**2021 – 2022** University of Edinburgh – **Distinction** - MRes Biomedical Artificial Intelligence
**2020 – 2021** Trinity College Dublin – **Distinction** - MSc Computer Science – Data Science
**2015 – 2019** University College Cork - **First Class Honors** BEEL Electrical & Electronic Engineering
**2009 – 2015** Presentation Brothers College, Maradyke, Cork

## Publications

**2022 : Integration of DNA methylation datasets for individual prediction** – First Author - In review with Genome biology
**2023 : Multi-Omic Graph Diagnosis (MOGDx) : A data integration tool to perform classification tasks for heterogeneous diseases** – First Author – In preprint

## Academic Achievements

2015 : Awarded a '**Quercus Entrance Scholarship**' from the SEFS department of UCC
2018 : Awarded '**Quercus Academic Scholarship**' from the SEFS department of UCC
2019 : **CEIA "UCC Engineering Graduate of the Year"**
2020 : **Trinity College Dublin European Excellence Scholar**
2023 : Poster Presentation at **International Society for Computational Biology** in Lyon

## Experience

**Debug Design Engineer Qualcomm Semiconductor** September 9th 2019 – September 15th, 2020

- Implement trace aggregation and error detection using Verilog and System Verilog as well as Synopsys and Spyglass tools such as Verdi to test design changes. Linting and Clock Domain Crossing (CDC) checks were also carried out on all designs
- Knowledge of ARM Microcontroller Bus Architecture (AMBA) bus protocols such as APB, AHB and AXI

**Research Intern Massachusetts Institute of Technology Energy Initiative** May 26th – August 17th, 2018

- Member of a postdoctoral research team working on modelling power transitions as the cost of DER's fall
- Developed a Machine Learning algorithm in Python which modelled the impact of increased investment in Solar Energy in California on Natural Gas Energy generation
- Created a SQL database, implemented in Linux which stores all public EPA Energy Generation and is self-updating

## Skills

- Proficient in the use of Python, R, Verilog, Excel, Matlab and C
- Experienced with Slurm and Kubernetes scheduling.

## Interests & Achievements

- Gaelic Athletic Association: Member since 2002 with Carrigaline and Dunedin Connolly's Football Club
- Keen interest in running. Completed first marathon in June 2022

**Referees on Request**