Barry Murphy, Ph.D.

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CAREER OBJECTIVE

To secure a long-term career growth opportunity with a high-quality employer where I can apply my data science skills to solve real business problems. Key areas of interest include:

- Energy
- New Technology
- Machine Learning
- Finance
- Insurance
- Telecoms
- Entertainment
- Retail

EDUCATION

Advanced Diploma in Project Management (PMP-based) – Dublin Business School, Ireland 2015

Doctor of Philosophy (Ph.D.) in Physics – Trinity College Dublin, Ireland 2009 – 2013

Bachelor of Science in Physics & Computer Simulation – Trinity College Dublin, Ireland 2005 – 2009

Modules:

- Numerical simulation
- Linear algebra
- Non-linear algebra
- Time-series analysis
- Statistics
- C programming
- Python programming
- Regression
- Mathematical modeling

WORK EXPERIENCE

Electrical Analytics Technology Ltd., Ireland – Electrical Analytics is a spinout of Trinity College Dublin, providing custom hardware and data-driven monitoring solutions for the energy industry.

Chief Data Scientist, Founder **December 2014 – August 2019**

- Founded and led this high-tech startup from conception through to trials with real customers
- Built a data pipeline & analysis toolkit and user interface for power grid operators and energy users
- Drove an inter-disciplinary team of engineers, providing technical and commercial direction
- Developed business relationships with customers to improve our product and initiate trials
- Raised $1.5M in non-equity funding to support technology development
- Wrote and illustrated patents, presentations, reports, and proposals

Trinity College Dublin, Ireland – Trinity College Dublin is Ireland's top-ranked university with a tradition of scholarship spanning more than four centuries, and is one of the top universities in Europe for innovation.

Postdoctoral Research Fellow, Applied Physics Research Group **November 2013 – August 2019**

- Secured $7.5M in research funding as lead proposal writer, including $265,000 as Lead Grantee
- Co-authored 20 research papers in top journals in the field, and presented at international conferences
- Managed innovation projects, supervised senior staff, and signed off on spending
- Designed and built experimental setups and new technology prototypes including custom electronic hardware, embedded control software, data gathering and analysis
- Simulated nanoscale physical processes using first-principles and finite element modelling

SKILLS AND ABILITIES

Programming Languages

- Advanced: R (inc. *dplyr*, *ggplot2*, *shiny*), Python (inc. *Numpy*, *Pandas*), SQL, HTML, CSS, Excel
- Intermediate: C, Mathematica/Matlab, *Scikit-Learn*
- Novice: C++, Hadoop & Spark platforms, Javascript, TensorFlow

Technical Skills

- Excellent statistical & time-series analysis skills
- Excellent physical & mathematical modelling skills including linear algebra & regression
- In-depth energy industry knowledge
- Linux, MacOS, & Windows power-user
- Experienced technical writer & illustrator
- Mathematical modelling & experimental design
- Specialist in nanotechnology & physical processes

Other Skills

- Proven leadership track record – supervised junior and senior staff on innovation projects
- Comfortable communicating to large and small groups
- Over 6 years' project management experience
- Strong attention to detail
- Excellent research skills – capable of rapidly upskilling in new fields
- Problem solver – creativity and the ability to quickly adapt to new ideas
- Business development – founded and led a team to discover and solve real business problems
- Innovation – 3 patent applications currently under review
- Entrepreneurship – shortlisted for national (Irish) and international innovation awards

HOBBIES

- Volunteer scout leader for 10 years
- Woodworking
- Cooking
- Board games
- Kayaking

Excellent references available upon request