

# DANIEL ARIF MURPHY

## CONTACT

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 21 Howell Drive, Greasby,  
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## COMPUTING SKILLS

### LANGUAGES

- R
- Python
- LaTeX

### TOOLS

- Microsoft Word
- Microsoft PowerPoint
- Microsoft Excel

## ACHIEVEMENTS

- UKMT Senior Mathematics Challenge 'Senior Kangaroo' award.
- 'National Citizen Service' award.
- Black Belt in Goju-Ryu karate; multiple regional Gold medals.
- Captain of St. John's College Football A-team, Durham University.
- Tough Mudder and Wirral Bikeathon finisher.
- Head of House, Student Prefect & Sport Prefect.

## SOCIAL MEDIA

 <https://www.linkedin.com/in/danielarifmurphy/>

## EDUCATION

**MSc Mathematical Sciences**

Distinction

2019-2020

Durham University, UK

- Courses: Statistical Methods, Bayesian Statistics, Stochastic Processes, Mathematical Finance, Partial Differential Equations, Mathematical Biology.

**BSc Mathematics and Economics**

First-Class Honours (all years)

Durham University, UK

2016-2019

- Courses: Operations Research, Decision Theory, Advanced Microeconomics, Applied Game Theory.

**Calday Grange Grammar School, UK**

2009-2016

A-Level: Mathematics (A\*), Further Mathematics (A\*), Chemistry (A), Economics (A).

AS-Level: 6As; FSMQ: A; GCSE: 10A\*-A inc. Mathematics (A\*) and English (A\*).

## PROJECTS

**MSc Project:** 'Sparse Machine Learning: Regularised Classification of DNA Microarrays'

- Researched generalisations of the LASSO penalty to introduce sparsity in high-dimensional data.
- Applied above models in R to classify cancerous patient tissue, as predicted from gene expression microarray data.

**Kaggle Project:** Deep Learning.

- Modelled a custom multi-class convolutional neural network in Python to identify the type of disease present in images of cassava leaves.

**WorldQuant University Project:** Natural Language Processing.

- Conducted a polarity analysis of text in Python to predict product ratings from Amazon reviews.

## EXPERIENCE

### TECHNOLOGY INTERN

*Bright Network, Virtual | June 2020 - July 2020*

- Assembled a release plan of a Facial Recognition technology for a mobile banking app.
- Outlined tailored communication styles and frequencies to different project stakeholders by using Agile methodologies.

### ACTUARIAL CONSULTING SUMMER INTERN

*Barnett Waddingham LLP, Liverpool | June 2019 - August 2019*

- Employed an elastic-net GLM in R for expected loss-cost, and used the Gini index to quantify the 'lift' of an insurance rating plan.
- Utilised Excel models to calculate transfer values for pension-scheme members.
- Analysed volatile scheme assumptions by conducting sensitivity analyses.
- Researched predictors of UK mortality trends using datasets from actuarial databases; research was presented to BW partners.

### UNDERGRADUATE STATISTICS TUTOR

*Durham University, Durham | October 2018 - June 2019*

- Chosen by the Natural Sciences Course Director to deliver help via 1:1 sessions.
- Led weekly sessions for students struggling with the Statistical Concepts II module.
- Suitably tailored teaching styles to individual students.

### TAX CONSULTING SUMMER INTERN

*Deloitte LLP, Liverpool | July 2018 - August 2018*

- Performed tax-return calculations in Excel, and drafted pro forma for clients.
- Consulted with colleagues in Florence, Italy to research foreign stamp-duty laws.