

# Andrew McInerney

## PH.D. STUDENT

Department of Mathematics and Statistics, University of Limerick

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## Employment

### University of Limerick

Limerick, Ireland

#### EMODERATOR - PROFESSIONAL DIPLOMA IN DATA ANALYTICS

January 2022 - Present

- Monitored forums and hosted weekly question-and-answer sessions for students in online modules titled 'Data Analytics with R' and 'Introduction to Predictive Analytics'.
- Prepared tutorial and computer-laboratory sheets for 'Introduction to Predictive Analytics'.

#### TUTOR - DEPARTMENT OF MATHEMATICS AND STATISTICS

September 2020 - Present

- Tutored undergraduate and postgraduate students in the following modules: Advanced Data Analysis, Applied Business Statistics, Applied Data Analysis, Statistics for Data Analytics, Stochastic Processes.
- Graded undergraduate and postgraduate assignments in addition to final examinations.

### Hertz

Dublin, Ireland

#### DATA SCIENCE INTERN

June 2021 - September 2021

- Performed cluster analysis on customer and rental data to provide meaningful customer segments for the Marketing team.

### Regeneron Pharmaceuticals

Limerick, Ireland

#### DATA ANALYTICS INTERN

January 2019 - August 2019

- Undertook an eight-month internship within the Process Monitoring and Data Analytics team.
- Main responsibilities included carrying out ad hoc statistical analyses (e.g., t-tests and ANOVA), statistical process control (SPC), and design of experiments (DOE).

## Education

### University of Limerick

#### PHD IN STATISTICS (SFI CENTRE FOR RESEARCH TRAINING IN FOUNDATIONS OF DATA SCIENCE)

2020 - Present

- Title: 'A Statistical Approach to Neural Networks' (Supervisor: Dr. Kevin Burke).

### University of Limerick

#### BSC IN MATHEMATICAL SCIENCES (FIRST CLASS HONOURS)

2016 - 2020

## Technical Skills

#### PROGRAMMING

- 6 years experience with R:
  - Developed R packages during PhD: **selectnn**, **statnnnet**.
  - Taught R to undergraduate and postgraduate students.
- Proficient in: SPSS, JMP,  $\text{\LaTeX}$ .
- Familiar with: AWS, Git, Python, SQL, Tableau.

## Publications

#### PREPRINTS

- 2022 **McInerney, A., Burke, K., A Statistically-Based Approach to Feedforward Neural Network Model Selection** (*arXiv preprint*)

#### CONFERENCE PROCEEDINGS

- 2022 **McInerney, A., Burke, K., Statistical Information-Criteria-Based Neural Network Input and Hidden Node Selection** (*In Proceedings of the 36th International Workshop on Statistical Modelling*)

## Presentations

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### INVITED

- 2022 **Feedforward Neural Networks as Statistical Models**, The 3rd Young Statisticians' Section of the Irish Statistical Association (Young-ISA) Meeting: Collaborative Workflow in Data Science
- 2022 **Variable and Architecture Selection in Neural Networks**, The 5th International Conference on Econometrics and Statistics (EcoSta 2022)
- 2021 **Information-criteria-based Model Selection for Neural Networks**, The Royal Statistical Society International Conference 2021 (RSS)

### CONTRIBUTED

- 2022 **Statistical information-criteria-based neural network input and hidden node selection**, 36th International Workshop on Statistical Modelling (IWSM 2022)
- 2022 **A Statistical Approach to Neural Network Model Selection**, The 42nd Conference on Applied Statistics in Ireland (CASI 2022)
- 2021 **Information-criteria-based Model Selection for Neural Networks**, The 44th Research Students' Conference in Probability and Statistics (RSC 2021)
- 2021 **Information-criteria-based Model Selection for Neural Networks**, The 4th International Conference on Econometrics and Statistics (EcoSta 2021)

## Awards

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- 2021 RSC 2021 - 'Best Long Talk'

## Volunteering

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### UL SIAM Student Chapter (Society for Industrial and Applied Mathematics)

*Limerick, Ireland*

#### TREASURER

*September 2021 - Present*

- Secured funding for the chapter from Analog Devices.
- Organised the 8th Annual Irish SIAM Student Conference.