NICOLA RENNIE

Statistician & Data Scientist

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TECHNICAL SKILLS

R | RShiny | tidyverse
plotly | Python | pandas
NumPy | matplotlib
SQL | Git | LaTeX
RMarkdown | HTML
CSS

PERSONAL SKILLS

🕐 Highly organised and detail orientated

✏ Designing and carrying out research projects

👥 Presenting research to a range of audiences

🏭 Collaborating with businesses to formulate mathematical problems

PROFILE

Passionate about using statistics to aid in better decision-making, and creating informative data visualisations to communicate findings. Creative, driven, and self-reliant. I am currently looking for a challenging new role where I can continue to utilise and grow my analytical skills to influence decisions.

EDUCATION

PhD Statistics and Operational Research

📅 Oct 2018 – Present   📍 Lancaster University, UK

- Thesis: *Data-driven Alerts in Revenue Management*. Developing statistical methods to highlight deviations between real-world observations and the expected behaviour of revenue management systems.
- Collaborated with Deutsche Bahn to ensure research is relevant to practitioners, and designed interactive dashboards for non-technical users.
- Designed and supervised an 8 week internship project, and supported the student in presenting our research.
- Awarded the Nick Smith Prize for Research Excellence in August 2020.

MRes Statistics and Operational Research, *Distinction*

📅 Oct 2017 – Oct 2018   📍 Lancaster University, UK

BSc(Hons) Mathematics, *First Class*

📅 Sep 2014 – Jun 2017   📍 University of St Andrews, UK

EMPLOYMENT HISTORY

Graduate Teaching Assistant

📅 Oct 2018 – Present   📍 Lancaster University, UK

- Tutored workshops in both Management and Statistics at undergraduate and postgraduate level. Modules include: Time Series Analysis, Statistical Methods for Business, and Spreadsheet Modelling for Management.
- Evaluated teaching literature and practices to become an Associate Fellow of the Higher Education Academy (Advance HE).

PUBLICATIONS

Identifying and responding to outlier demand in revenue management
N. Rennie, C. Cleophas, A.M. Sykulski et al.
European Journal of Operational Research (2021)
doi: https://doi.org/10.1016/j.ejor.2021.01.002

METHODS

Outlier detection

Classification

Functional analysis

Time series analysis

Clustering

Forecasting

Regression

Simulation

Statistical modelling

Dimension reduction

AWARDS

🏆 Nick Smith Prize for Research Excellence. Lancaster University. 2020

🏆 LUMS Research Conference Doctoral Poster Competition (3rd place). Lancaster University. 2019.

🏆 Dean's List. University of St Andrews. 2017.

🏆 Dean's List. University of St Andrews. 2016.

🏆 Dean's List. University of St Andrews. 2015.

CONFERENCE PRESENTATIONS

- OR Society WORAN Meeting: Early Career Researchers. March 2021.
- 5th AIRO Young Workshop. February 2021.
- STOR-i Workshop on Prediction and Optimisation. (Cancelled) Lancaster University. April 2020.
- STOR-i Annual Conference. Lancaster University. January 2020.
- Lancaster University Management School Research Conference. Lancaster University. September 2019. (Poster - 3rd place)
- European Working Group on Pricing & Revenue Management. Erasmus University Rotterdam. August 2019.
- 30th European Conference on Operational Research (EURO). UCD. June 2019.
- STOR-i Annual Conference. Lancaster University. January 2019.

PROFESSIONAL DEVELOPMENT

- Resilience and Self-Doubt. November 2020.
- STOR-i Workshop on **Time Series and Spatial Statistics**. Lancaster University. May 2020.
- Storytelling Training Course. Lancaster University. May 2020.
- APTS: **Design of Experiments / Flexible Regression**. Oxford University. September 2019.
- NATCOR: **Simulation**. Loughborough University. July 2019.
- NATCOR: **Stochastic Modelling**. Lancaster University. April 2019.

ADDITIONAL EXPERIENCE

- Member of the Organising Committee for the 44th Research Students' Conference in Probability and Statistics (January 2020 - present). In my role in marketing and publicity, I designed the conference website, produced marketing materials, and collaborated with universities to attract postgraduate participants.
- Regular contributor to open-source data visualisation challenges, with all code available on GitHub.