NICOLA RENNIE

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⌂ nrennie.github.io
 github.com/nrennie
in nicola-rennie-076511b3
iD 0000-0003-4797-557X

SKILLS

- 🕐 Time management
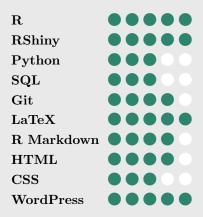- ✏ Writing technical reports
- 👥 Presenting research
- 📊 Data analysis
- 🎓 Research methodology
- 🏭 Industrial collaboration

PROGRAMMING

R	●●●●●
RShiny	●●●●●
Python	●●●○○
SQL	●●●○○
Git	●●●●○
LaTeX	●●●●●
R Markdown	●●●●○
HTML	●●●○○
CSS	●●●○○
WordPress	●●●●●

PROFILE

With a diverse quantitative background, I am interested in using mathematics to aid in better decision-making. With a passion for creating informative data visualisations, I well-versed in communicating research to a range of audiences. Throughout my PhD, I have ensured my research has genuine impact by collaborating with Deutsche Bahn, Lufthansa, and Swiss Air Lines. I am currently looking for a challenging new role where I can continue to utilise my analytical skills to influence decisions.

Research areas: Revenue management; Classification; Simulation; Forecasting; Outlier detection; Functional data analysis; Optimisation.

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.
- Nick Smith Prize for Research Excellence. 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

- Tutoring 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.
- Associate Fellow of the Higher Education Academy (Advance HE)

PUBLICATIONS

Identifying and Responding to Outlier Demand in Revenue Management
Rennie, N., Cleophas, C., Sykulski, A., Dost, F. 12/12/2019
Pre-print: arxiv.org/abs/1912.05974

METHODS

- ✔ Functional data analysis
- ✔ Clustering
- ✔ Outlier detection
- ✔ Forecasting
- ✔ Regression
- ✔ Decision trees
- ✔ Dimensionality reduction
- ✔ Statistical modelling

LANGUAGES

English ●●●●●
Italian ●●○○○
German ●○○○○

CONFERENCE PRESENTATIONS

- 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. UCD. June 2019.
- STOR-i Annual Conference. Lancaster University. January 2019.

PROFESSIONAL DEVELOPMENT

- Resilience and Self-Doubt. November 2020.
- The Final Year of Your Doctorate: What You Need To Do To Be Successful. Lancaster University. October 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.

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.

ADDITIONAL RESPONSIBILITIES

- Member of the Organising Committee for RSC 2021 (44th Research Students' Conference in Probability and Statistics)