# Mitchell O'Hara-Wild

Data Scientist

*Melbourne, Australia*

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## Current employment

**Nectric**                                                                                        *Melbourne, Australia*
Data science consultant                                                                                *Jan. 2019 - Present*

- Data science consulting projects including spatio-temporal modelling, and large scale forecasting.
- Hosting workshops improving data literacy, development, analysis and modelling capabilities.

**Monash University**                                                                                  *Clayton, Australia*
Research assistant                                                                                       *Oct. 2015 - Present*

- Involved in many internal and external data projects of varying size and complexity.
- Projects typically feature large scale time series modelling or analysis, cross-sectional modelling and creating tools for improving workflows.
- Consulting project clients include: COVID-19 Doherty Institute, Huawei, Monash University, R Consortium, and the NSW Chief Scientist office.
- Developer for The R Journal, producing software for managing submitted articles and publishing them in both interactive HTML and static PDF.

**Monash University**                                                                                  *Clayton, Australia*
Teaching Associate                                                                                      *Mar. 2016 - Present*

- Sessional teaching of university students undertaking Bachelor's and Master's degrees.

## Education

**Monash University**                                                                                  *Clayton, Australia*
PhD in Econometrics                                                                                    *Feb. 2023 - Present*

- Recipient of the Monash Graduate Excellence Scholarship.
- Research in forecast reconciliation and the design of statistical software for forecasting.

**Monash University**                                                                                  *Clayton, Australia*
BCom (Hons) in Econometrics                                                                          *Mar. 2017 - Nov. 2017*

- Recipient of the Econometrics Honours Memorial Scholarship, Dean's Honour, Dean's Commendation, and best in class for 5 units.
- Honours research project was to develop a state space model for quickly forecasting time series with multiple seasonalities.
- Studied units include Bayesian and frequentist econometrics, advanced statistical modelling and computational science.

**Monash University**                                                                                  *Clayton, Australia*
BCom in Econometrics, BSc in Mathematical statistics and Computational Science                        *Mar. 2013 - Nov. 2016*

- Recipient of the Monash Community Leaders Scholarship, International Institute of Forecasters Award, and best in class for 4 units.
- Mentor for the Access Monash Ambassador Program (2015 and 2016)
- Participant of the Vice-Chancellor's Ancora Imparo Student Leadership Program (2014)
- Studied a broad range of units covering many aspects of data science. The three disciplines I majored in explored different perspectives for working with data.

# Teaching experience

## University Tutoring

My teaching quality at Monash University has been consistently recognised with positive student evaluations and individual praise from my students. I generally teach applied forecasting and data analysis skills that give students a practical toolkit for working with data in industry. I have also been awarded nine congratulatory letters for outstanding student evaluations which indicates that the unit's teaching is among the best in the university.

## Workshops and trainings

In addition to sessional tutoring, I also teach data analysis workshops for industry professionals.

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|---|---|
| Oct. 2024 | **Advanced R Tips and Tricks**: Instructor (WOMBAT, Australia)<br>Half-day workshop on advanced R programming. |
| Oct. 2024 | **Interactive web applications with Shiny for R**: Instructor (WOMBAT, Australia)<br>Half-day workshop on creating interactive web applications in R using Shiny. |
| Oct. 2023 | **Tidy Time Series and Forecasting in R**: Instructor (Dept. Edu, Australia)<br>Two day workshop on forecasting using tidy forecasting tools in R. |
| Sept. 2024 | **AFRICAST: Tidy forecasting for social good**: Instructor (F4SG, Online)<br>Five day workshop on forecasting for 181 students from 32 Sub-Saharan African countries. |
| Jul. 2024 | **Tidy time series analysis and forecasting**: Instructor (useR!, Austria)<br>Quick-start workshop for tidy forecasting in R. |
| Jun. 2024 | **Tidy time series analysis and forecasting**: Instructor (R/Medicine, Online)<br>Quick-start workshop for tidy forecasting in R. |
| Dec. 2023 | **Interactive web applications with Shiny for R**: Instructor (SSA, Online)<br>Booked out 3-hour online quick-start workshop for the basics of Shiny. |
| Oct. 2023 | **AFRICAST: Tidy forecasting for social good**: Instructor (F4SG, Online)<br>Five day workshop on forecasting for 62 students from 9 Sub-Saharan African countries. |
| Jul. 2023 | **Tidy Time Series and Forecasting in R**: Instructor (NYR, USA)<br>Two day workshop on forecasting using tidy forecasting tools in R. |
| Dec. 2022 | **Interactive web applications with Shiny**: Instructor (WOMBAT, Australia)<br>Half-day workshop on the basics of shiny applications. |
| Jan. 2020 | **Tidy Time Series and Forecasting in R**: Teaching assistant (rstudio::conf, USA)<br>Two day workshop with Rob Hyndman on forecasting using tidyverse workflows. |
| Nov. 2019 | **Interactive documents with Shiny**: Instructor (CSIRO, Australia)<br>Two day intermediate workshop on developing of shiny applications. |
| Sep. 2019 | **Data Wrangling**: Instructor (Monash University, Australia)<br>A short workshop in the 'R Workshops for Beginners' series on using tidyr and dplyr to wrangle data. |
| Jul. 2019 | **Tidyverse developer day**: Helper (RStudio, France)<br>A one day developer day where I helped R users resolve issues on tidyverse packages. |
| Aug. 2019 | **High-dimensional time series analysis**: Teaching assistant (ISI WSC, Malaysia)<br>One day short course with Rob Hyndman for analysing and forecasting large collections of time series. |
| Mar. 2019 | **The grammar of animation**: Instructor (Monash University, Australia)<br>A short workshop for NUMBAT group on creating animated graphics in R with the gganimate package. |
| Dec. 2016 | **Master R Developer Workshop**: Teaching assistant (RStudio, Australia)<br>A two day workshop with Hadley Wicham on programming with R and developing R packages. |

# Research output

## SOFTWARE

My primary research output is the translation of academic research into open source software packages. In total I have been the lead developer or a substantial contributor to more than 20 open source R packages, many of which provide tools for analysing time series data and visualisations. This software has a significant impact to the industry, with the total average unique monthly downloads exceeding 100,000.

## PRESENTATIONS

| | |
|---|---|
| 2024 | **Scalable self-paced e-learning with automated feedback**: Using e-learning technology for teaching at scale.<br>`https://slides.mitchelloharawild.com/wombat2024/` |
| 2024 | **Statistical computing with vectorised operations on distributions**: Introducing the distributional package for R.<br>`https://slides.mitchelloharawild.com/user2024/` |
| 2024 | **Feature based graph pruning for improved forecast reconciliation**: Large scale forecast reconciliation with reduced complexity.<br>`https://slides.mitchelloharawild.com/pruning-graphs/` |
| 2023 | **Creating flexible e-learning quizzes with literate programming**: Using literate programming to create Moodle quizzes.<br>`https://slides.mitchelloharawild.com/moodlequiz/` |
| 2023 | **From forecast to fable, design decisions for statistical software**: A comparison of the design differences between forecast and fable.<br>`https://slides.mitchelloharawild.com/nyr2023/` |
| 2023 | **Reconciliation of structured time series forecasts with graphs**: Reconciling forecasts with graph constraints.<br>`https://slides.mitchelloharawild.com/reconciling-graphs/` |
| 2023 | **The design of statistical software**: Discussion about design principles of user interfaces for statistics.<br>`https://slides.mitchelloharawild.com/statistical-software-design/` |
| 2020 | **Forecasting with multiple seasonality**: Methods and techniques to multiple seasonal forecasting in R<br>`https://slides.mitchelloharawild.com/nhs2020/` |
| 2020 | **Probabilistic cross-temporal hierarchies**: Recent developments of temporal reconciliation in fable.<br>`https://slides.mitchelloharawild.com/isf2020/` |
| 2019 | **Flexible futures for fable functionality**: Gradual introduction to tidy forecasting with fable. Flexibility is demonstrated with combination modelling and package extensibilitiy.<br>`https://slides.mitchelloharawild.com/fable-tfeam/` |
| 2019 | **Flexible futures for fable functionality**: Reconciled forecasting of many time series with model combinations.<br>`https://slides.mitchelloharawild.com/isf2019/` |
| 2018 | **Tidy forecasting in R**: Discussion of recent developments to the fable framework.<br>`https://slides.mitchelloharawild.com/fable-tfeam/` |
| 2018 | **Forecasting multiple seasonality with state switching**: The FASSTER model with the fable framework.<br>`https://slides.mitchelloharawild.com/user2018` |
| 2017 | **Models for forecasting multiple seasonality**: An introduction to the FASSTER model.<br>`https://slides.mitchelloharawild.com/melburn17/` |

## PUBLICATIONS

1.  Athanasopoulos, G., Hyndman, R. J., Kourentzes, N., & O'Hara-Wild, M. (2022). Probabilistic forecasts using expert judgment: The road to recovery from COVID-19. *Journal of Travel Research*. `https://doi.org/10.1177/00472875211059240`

# Awards & Achievements

## AWARDS

| | | |
|---|---|---|
| 2023 | Student Presentation Award | *ISF* |
| 2021 | Dean's Citation for Outstanding Contribution to Student Learning as a Teaching Associate | *Monash* |
| 2017 | Commerce Dean's Honour | *Monash* |
| 2016 | Commerce Dean's Commendation | *Monash* |
| 2014-2016 | Science Dean's List | *Monash* |
| 2014 | International Institute of Forecasters Award | *IIF* |
| 2013 | Rotary Youth Leadership Award | *Rotary* |

## SCHOLARSHIPS

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|---|---|---|
| 2023 - 2026 | Monash Graduate Excellence Scholarship | *Monash* |
| 2023 - 2026 | Monash Faculty Scholarship | *Monash* |
| 2023 - 2026 | Monash Departmental Scholarship | *Monash* |
| 2017 | Econometrics Honours Memorial Scholarship | *Monash* |
| 2015 & 2016 | Monash Community Leaders Scholarship | *Monash* |
| 2011 & 2012 | Mitcham Rotary Scholarship | *Rotary* |