Mitchell O'Hara-Wild

DATA SCIENTIST

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Education

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 collection of units covering many aspects of data science. The three disciplines I majored in explored different perspectives for working with data.

Data consulting experience

Nectric   *Clayton, Australia*
DATA SCIENTIST   *Jan. 2019 - Present*
- A variety of consulting projects with substantial spatio-temporal modelling tasks.

Monash University   *Clayton, Australia*
RESEARCH ASSISTANT   *Jan. 2016 - 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: Huawei, Monash University, R Consortium, NSW Chief Scientist office, DiabetesLab and Tennis Australia.

iSelect   *Cheltenham, Australia*
DATA MINING INTERN   *Feb. 2015 - Mar. 2015*
- Improved business reporting with interactive visualisations, and model-based anomaly detection.

Teaching experience

UNIVERSITY

My teaching quality at Monash University has been consistently recognised with positive student evaluations and individual praise from my students. I have also been awarded congratulatory letters for outstanding student evaluations for three of my units (ETF5231, ETC3580, ETC3550), which indicates that student feedback for the unit is among the best in the university.

Monash University   *Clayton, Australia*
TEACHING ASSOCIATE   *S1 2018 - Present*
- Advanced statistical modelling (ETC3580)
- Data modelling and computing (ETC1010)
- Applied forecasting for business and economics (ETC3550)

Monash University   *Caulfield, Australia*
TEACHING ASSOCIATE   *S1 2016 - S1 2018*
- Business forecasting (ETF3231/ETF5231)
- Mathematics for business (ETF2700)

WORKSHOPS

In addition to sessional teaching, I occasionally teach data analysis skills using R at workshops.

Tidy Time Series and Forecasting in R   *rstudio::conf, San Francisco, California*
TEACHING ASSISTANT   *Jan. 2020*
- Two day workshop with Rob Hyndman on forecasting using tidyverse workflows.

Interactive documents with Shiny   *CSIRO Canberra, Australia*
INSTRUCTOR   *Nov. 2019*
- Two day intermediate workshop on developing of shiny applications.

Data Wrangling   *Monash University Clayton, Australia*
INSTRUCTOR   *Sep. 2019*
• A short workshop in the student ran 'R Workshops for Beginners' series on using tidyr and dplyr to wrangle data.

Tidyverse developer day   *RStudio, Toulouse France*
HELPER   *Jul. 2019*
• A one day developer day where I helped R users resolve issues on tidyverse packages.

High-dimensional time series analysis   *ISI WSC, Kuala Lumpur, Malaysia*
TEACHING ASSISTANT   *Aug. 2019*
• One day short course with Rob Hyndman for analysing and forecasting large collections of time series.

The grammar of animation   *Monash University Clayton, Australia*
INSTRUCTOR   *Mar. 2019*
• A short workshop for NUMBAT group on creating animated graphics in R with gganimate

Master R Developer Workshop   *RStudio, Melbourne Australia*
TEACHING ASSISTANT   *Dec. 2016*
• A two day workshop with Hadley Wicham on programming with R and developing R packages.

Research experience

SOFTWARE DEVELOPMENT

My primary research output is the translation of academic research into open source software packages.

2019 -	**fable**: Lead developer A collection of time series models for use in a tidyverse workflow.
2019 -	**fable.prophet**: Lead developer Extension package implementing the prophet forecasting procedure for fable.
2019 -	**feasts**: Lead developer Provides a collection of features, decompositions, statistical summaries and graphics functions for the analysing tidy time series data.
2019 -	**fabletools**: Lead developer Implements the fable framework for analysing time series within a tidyverse workflow. This package is developer oriented, allowing developers to extend the framework with their own models and algorithms.
2019 -	**tsibbledata**: Lead developer Diverse datasets in the 'tsibble' data structure. These datasets are useful for learning and demonstrating how tidy temporal data can tidied, visualised, and forecasted.
2019 -	**tsfeatures**: Author Various methods for extracting features from time series data.
2018 -	**tsibble**: Contributor Tidy temporal data structures and tools. The data for the tidy time series collection of packages.
2018 -	**vitae**: Lead developer Dynamically generate a Résumé or CV using R Markdown. This CV is created using code with that package!
2017 -	**fasster**: Lead developer An implementation of the FASSTER (Forecasting with Additive Switching of Seasonality, Trend and Exogenous Regressors) model in the fable framework. This is the model developed for my honours thesis.
2017 -	**icon**: Lead developer Embed SVG icons in R documents such as slides, reports and apps.
2018 -	**taipan**: Lead developer Generates shiny apps for annotating image data. Image annotations are typically used for training and evaluation of machine learning models.
2017 -	**ggquiver**: Lead developer Extends ggplot2 for displaying vector fields on plots.
2015 -	**forecast**: Author Methods and tools for displaying and analysing univariate time series forecasts including exponential smoothing via state space models and automatic ARIMA modelling.

PRESENTATIONS

2019	**Flexible futures for fable functionality**: Gradual introduction to tidy forecasting with fable. Flexibility is demonstrated with combination modelling and package extensibilitiy. `https://slides.mitchelloharawild.com/fable-tfeam/`
2019	**Flexible futures for fable functionality**: Reconciled forecasting of many time series with model combinations. `https://slides.mitchelloharawild.com/isf2019/`
2018	**Tidy forecasting in R**: Discussion of recent developments to the fable framework. `https://slides.mitchelloharawild.com/fable-tfeam/`
2018	**Forecasting multiple seasonality with state switching**: The FASSTER model with the fable framework. `https://slides.mitchelloharawild.com/user2018`
2017	**Models for forecasting multiple seasonality**: An introduction to the FASSTER model. `https://slides.mitchelloharawild.com/melburn17/`