# Danyang Dai

PhD Student - Faculty of Medicine

416874688 | danyang.dai@uq.edu.au | danyangdai | danyang-dai-7529b4152

## Education

### Doctor of Philosophy
*University of Queensland*
BRISBANE, QLD
*2023 - 2026*

- Supervisors: Professor Jason Pole, Associated Professor Sally Shrapnel, Doctor Pedro Franca Gois
- Digital Health Methods for Evaluating Chronic Organ Injuries Resulting from Infectious Epidemics: Acute Kidney Injury post COVID-19 Omicron Surge as an Exemplar

### Master of Applied Econometrics
*University of Melbourne*
PARKVILLE, VIC
*2019-2020 Dec*

- First Class Honours Thesis (83): Official and online inflation spillover analysis of the euro area.
- Supervision: Professor Kalvinder Shields and Dr. Andrew Clarke.

### Bachelor of Commerce
*Monash University*
CLAYTON, VIC
*2015-2018*

## Awards

- Digital Health UQ-QH Alliance (DHUQHA) Scholarship

## Research Experience

### Research Assistant to Professor Tracy Comans
*University of Queensland*
FACULTY OF MEDICINE
*2023 Jul - Present*

- Australian National Aged Care Classification Risk Adjustment.
- Assigning risk adjustment to each age care facility according to different measurement.

### Research Assistant to Associate Professor Sally Shrapnel
*University of Queensland*
SCHOOL OF MATHEMATICS AND PHYSICS
*2022 Aug - 2022 Dec*

- Project with the International Severe Acute Respiratory and emerging Infections Consortium (ISARIC).
- This study investigates how different COVID-19 variants such as Alpha, Beta, Delta and Omricon cause Acute Kidney Injury (AKI) in patients admited to the hospital.
- Conduct analyses using COVID-19 patient data across 67 countries provided by University of Oxford's Centre for Tropical Medicine and Global Health.
- Develop an algorithm that identifies AKI from Kidney Disease Improving Global Outcomes (KDIGO) measurements.
- Build and maintain a local database that contains all medical records for patients.
- Produce data visualisation and data analysis for the research paper.

### Research Assistant to Associate Professor Ben Beck
*Monash University*
SCHOOL OF PUBLIC HEALTH AND PREVENTIVE MEDICINE
*2021 Oct - 2022 Sep*

- Conduct research activities for Sustainable Mobility: city-wide exposure modelling to advance bicycling" (DP210102089) study under the supervision of Assoc Prof. Ben Beck.
- This project aims to develop a platform that models the number of cyclists on each road in greater Melbourne.
- Managing and monitoring the entire 6-month data collection period using data visualisations.
- Design and implement algorithms that calculate trip information including trip distance, duration, speed and acceleration.
- Assist in preparing scientific reports and other documentation, including undertaking literature reviews and data analysis.
- Recruit over 900 participants for the study and distribution of GPS monitoring equipment. Overseeing participant management and providing support when required.

### Research Assistant to Econometrics and Business Statistics Department
ECONOMETRICS AND BUSINESS STATISTICS

*Monash University*
*2021 Oct - 2022 March*

- Helped develop self-guided intertactive online learning materials for students learning R.
- This short course provides the necessary skills to use R when learning more advanced and specialised topics at Monash.
- The topics covered include: RStudio IDE, basic R programming, troubleshooting, project management, data analysis, modelling, visualisation and communication with data.
- This resouse is used by hundreds of students from Monash University and it is publicly available online at `https://learnr.numbat.space`.

### Research Assistant to Dr. Emi Tanaka
ECONOMETRICS AND BUSINESS STATISTICS

*Monash University*
*2021 Jun - 2021 Oct*

- This research project looks into how the development of open source software can be quantified as academic achievements.
- Developing an R package (cranscrub) which provide processed data of the number of unique user R package downloads.
- Developed advanced data management skills by processing a large dataset (65GB) on a server using R.

## Teaching Experience

### Teaching Assistant
ECONOMETRICS AND BUSINESS STATISTICS

*Monash University*
*2021 Jan - 2022 Dec*

- Data visualisation and analytics (ETF5922), Statistical Thinking (ETC2420), Introductory econometrics (ETC2410) and Introduction to data analysis (ETC5510).

## Published and working papers

### Association of Country Income Level With the Characteristics and Outcomes of Critically Ill Patients Hospitalized With Acute Kidney Injury and COVID-19

*Kidney International Reports*

MARINA WAINSTEIN, NICHOLAS SPYRISON, DANYANG DAI, MOJI GHADIMI, JONATHAN S. CHÁVEZ-IÑIGUEZ, LILIA RIZO-TOPETE, BARBARA WANJIRU CITARELLA, LAURA MERSON, JASON D. POLE, ROLANDO CLAURE-DEL GRANADO, DAVID W. JOHNSON, SALLY SHRAPNEL

*2023*

### Teach a student how to debug, and they can code for a lifetime: Open-source interactive self-paced R learning website - Conference presentation

*Australian Statistical Conference and Australian Conference on Teaching Statistics 2023*

DANYANG DAI, MITCHELL O'HARA-WILD, EMI TANAKA

*2023*

### GPS data collection for modelling bicycling activity]{GPS data collection for modelling bicycling activity across Greater Melbourne
DEBJIT BHOWMICK, DANYANG DAI, BEN BECK.

*Intended Journal: Travel Behavior and Society*
*Working paper*

## Affiliation

### Committee Member
QUEENSLAND DIGITAL HEALTH CENTER HDR SYMPOSIUM WORKING GROUP

*Brisbane*
*2023 May - Present*

- Assisting in bring all HDR students in the digital health space together.
- Organising Queensland Digital Health HDR Symposium happening in October 2023

### President
R-LADIES MELBOURNE

*Melbourne*
*2020 March - Present*

- Giving Public Workshop: R Markdown - A Better Way of Communicating with Data.
- Workshop on website development using Blogdown
- Host public events including TidyTuesdsay
- In charge of the Github account and maintaining repositories.