

# RYAN CHAN

07892676401

ryanchan2607@gmail.com

LinkedIn: ryan-chan-2607 — Website: rchan26.github.io

## EDUCATION

---

### **The Alan Turing Institute / University of Warwick PhD in Statistics**

September 2018 - Present

- University of Warwick has one of the top statistics research groups in the UK. PhD in partnership with The Office of National Statistics (ONS) and The Alan Turing Institute which is the national institute for data science and artificial intelligence
- Working on Bayesian analysis for Big Data and developing Monte Carlo methodology for unifying distributed analysis with Prof. Gareth Roberts, Dr. Murray Pollock and Prof. Petros Dellaportas
- Co-organiser of the student seminar series at The Alan Turing Institute
- Student representative of the 2018/19 doctoral cohort
- Publications:
  - Chan, R.S.Y., Johansen, A.M., Pollock, M., and Roberts, G.O. 2021. Divide-and-Conquer Monte Carlo Fusion. Submitted. *arXiv:2110.07265*.
  - Chan, R.S.Y., and Dai, H. 2020. Discussion of “Quasi-stationary Monte Carlo and the ScaLE algorithm” by Pollock, Fearnhead, Johanson and Roberts. *JRSS B*.

### **University of Leeds**

September 2014 - July 2018

#### **MMath, BSc Mathematics - 1st Class Honours (87%)**

- Focused on Bayesian statistics, statistical computing & algorithms, stochastic processes
- Good knowledge of statistics/machine learning models and algorithms: predictive modelling, deep learning, recommender systems, topic modelling
- Elected by the Mathematical Society to be treasurer and secretary for the 2017/2018 academic year

## PROJECTS

---

### **PhD: Monte Carlo (Fusion) methods for unifying distributed analysis** October 2018–present

- Developing methodology for combining several sample approximations of distributions into a single coherent unified distribution, with applications in inference for big data
- Created a number of R software packages to implement the methodology developed
- Gained experience in integrating C++ with R using Rcpp

### **Recommendation Systems for Podcast Discovery (ATI Data Study Group)**

April 2021

- Participated in a project with Entale to develop podcast recommendation systems
- Built a topic model to recommend new podcasts based on the similarity to the topics that have been of interest to a listener previously
- Gained experience with Natural Language Processing, collaborative filtering, text mining, clustering algorithms, dimension reduction techniques and recommender systems using Python

### **Bayesian Sports Modelling**

July 2017 - May 2018

- Investigated the applicability of Bayesian hierarchical models for predicting the outcome of football matches
- Developed models that achieved a greater prediction accuracy than existing models in the literature
- Used R and Stan to implement various models

## Automatic Puzzle Solving

September 2016 - May 2017

- Investigated the logic of Sudoku puzzles and studied search algorithms to solve and generate Sudoku puzzles
- Designed and implemented a search algorithm that was able to solve all square Sudoku puzzles

## EXPERIENCE

---

### Cambridge Spark - Teaching Fellow

March 2021 - Present

- Developing course materials for students enrolled in Cambridge Spark's *Data Essentials* program providing an introduction to statistics and data analytics

### University of Warwick - Teaching Assistant

July 2020

- Developed an R course (*Basic R with pointers*) for Mathematics and Statistics students
- Course covered basic programming with R, data visualisation with ggplot2, report writing with R Markdown and building packages in R

## AWARDS AND SCHOLARSHIPS

---

- The Alan Turing Institute Doctoral Studentship (2018-2022)
- The Royal Statistical Society Prize (2018)
- Three time recipient of the "Top 10 scholarship" awarded to the top 10 undergraduates each year at the University of Leeds (2015, 2016, 2017)
- Two time recipient of the "Summer Vacation Bursary Scheme" to undertake a research project at the University of Leeds (2016, 2017)

## SKILLS

---

### Programming

R Statistical (including Rcpp), Python, Julia, C++, Stan, HTML, CSS

### Other

Experience with parallel HPC and Cloud Computing with Microsoft Azure

Experience with Unix/Linux OS environments

SQL, Git

### Languages

English, Cantonese, Italian (beginner)

### Interests

Cycling, Film, Football, Basketball, Sports Analytics, Podcasts

**References available on request**