

Xiangjie Xue

PASSIONATE ABOUT PROGRAMMING · DRIVEN BY STATISTICS

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Overview

- A PhD student in Statistics expected to graduate in April 2021.
- Received Bachelor of Science (Honours) in Statistics with First Class, Bachelor of Science in Applied Mathematics and Operations Research.
- A strong background in R and C++, and comfortably working in a large data environment.

Education

The University of Auckland

Auckland

PHD IN STATISTICS

May. 2016 -

- Received University of Auckland Doctoral Scholarship. The intention of the Scholarship is to encourage high achieving students enrolled in doctoral study.
- Took courses in multivariate analysis and data science practice.

The University of Auckland

Auckland

BACHELOR OF SCIENCE (HONOURS) IN STATISTICS

Mar. 2015 - Nov. 2015

- Graduated with First Class Honours
- Took courses in probability theory, financial mathematics, R programming and statistical inference with First in Course Awards in two courses on statistical inference
- Summer Research Scholarship in statistical computing. Some work has been incorporated into **VGAM** package in R.

The University of Auckland

Auckland

BACHELOR OF SCIENCE IN APPLIED MATHEMATICS AND OPERATIONS RESEARCH

Mar. 2012 - Nov. 2014

- Received Senior Scholar Award in the Faculty of Science. The purpose of the Awards is to recognise graduating students who obtained the highest marks in their undergraduate programme.
- Courses taken in Applied mathematics include differential equations, numerical computation. Courses taken in Operations Research include stochastic processes, stochastic modelling and optimisation in Operations Research.
- Summer Research Scholarship with topics in partial differential equations (PDE). Numerical techniques were used to explore solutions to Hodgkin-Huxley equations as parameters were varied.

The University of California, Los Angeles

Los Angeles, US

A NON-DEGREE EXCHANGE PROGRAMME PROVIDED BY THE UNIVERSITY OF AUCKLAND

Sep. 2014 - Dec. 2014

- Received the 360° Auckland Abroad Exchange Travel Awards. The main purpose of the Awards is to assist students on an approved student exchange.
- Took courses including real analysis, mathematical modelling and financial mathematics.

Skills

Statistics

- A strong background in mathematics and statistics.
- Ability to carry out research with/without collaboration.
- Advanced skills in statistical programming and computing.

Computing

- A Advanced R and C++ user.
- Extensive experience in large-scale computation. Some numerical studies in my PhD project were performed on the high performance computing infrastructure provided by New Zealand eScience Infrastructure (NeSI).
- An experienced Git and Linux/Bash user.

Experience

The University of Auckland

Auckland

PART-TIME (GRADUATE) TEACHING ASSISTANT

Mar. 2013 - Jul. 2020

- Tutorial Tutor in courses such as general mathematics, probability, statistical inference, R programming and data science practice.
- Assistance Room Tutor mainly helping with undergraduate mathematics and statistics courses as well as programming required by those courses.

Large-scale Inference Using Non-parametric Mixtures

The University of Auckland

PHD PROJECT SUPERVISED BY DR. WANG YONG

May. 2016 -

A new approach to solving large-scale inferential problems using non-parametric mixtures is proposed. In particular, it is applied to solve several statistical problems, including the difficult problems in multiple hypothesis testing and covariance matrix estimation. This approach successfully makes use of the fast computation of a non-parametric maximum likelihood estimate and the advantages of empirical Bayes. Numerical studies have shown that our approach out-performs existing methods.

Gap Properties of Brownian Motion on the Two-dimensional Unit Torus

The University of Auckland

HONOURS DISSERTATION SUPERVISED BY DR. MARK HOLMES AND DR. JESSE GOODMAN

Mar. 2015 - Nov. 2015

The tail distribution of the global largest radius in the complement of the Brownian motion on two-dimensional unit torus is studied using simulations. Observations are simulated using computer programs and then fitted with power-law distributions using two different approaches. The accuracy of the estimated circles is also assessed by looking at the movement of a Brownian motion between two conservative points in the simulated random walks.