

Clement LEE

Address School of Mathematics, Statistics and Physics
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Academic statistician with expertise in statistical programming and visualisation in R, Bayesian modelling and computational statistics.

WORK EXPERIENCE

Lecturer in Statistics 2022-
School of Mathematics, Statistics and Physics, Newcastle University
Research and teaching. Administrative role: seminar organiser.

Lecturer in Statistics 2019-2022
Department of Mathematics and Statistics, Lancaster University
Research and teaching. Award: **Tower of Teaching** for outstanding teaching in the department.

Research Associate (Statistical Modeller) 2016-2019
School of Mathematics and Statistics, Newcastle University
Undertaken statistical research using data generated by mobile and web technologies developed by the Open Lab, with a focus on social network and citation network analysis.

Research Associate 2015
Department of Mathematics and Statistics, Lancaster University
Derived the optimal scaling of one Markov chain Monte Carlo (MCMC) sampler, and implemented efficient MCMC algorithms to stochastic epidemic models based on such optimal scaling.

Actuarial Intern 2010
BOC Group Life Assurance Company Ltd., Hong Kong
Performed statistical analysis to assist pricing and valuation, and helped with checking the rates of new insurance products.

Assistant in Actuarial Science 2009
Department of Statistics and Actuarial Science, the University of Hong Kong
Developed an Excel software of insurance pricing for teaching and consulting.

EDUCATION

PhD in Statistics 2011-2015
Lancaster University
Thesis title: Statistical Models for Financial Time Series and the House Price Index.

MSc in Statistics 2010-2011
Lancaster University
Passed with Distinction. Awards: **Chancellor's Medal**, and **Royal Statistical Society prize** for outstanding performance.

BSc in Actuarial Science

2006-2009

The University of Hong Kong

1st Class Honours. Awards: *HKU Worldwide Student Exchange Scholarship*, and *HKU Foundation Entrance Scholarship*.

PUBLICATIONS

Estimating the asphaltene critical nanoaggregation concentraion region using ultrasonic measurements and Bayesian inference 2021

A. Svalova, D. Walshaw, C. Lee, V. Demyanov, N. G. Parker, M. J. Povey and G. D. Abbott
Scientific Reports **11**, 6698

From the Power Law to Extreme Value Mixture Distributions 2020

C. Lee and E. Eastoe
arXiv preprint arXiv:2008.03073

A Hierarchical Model of Non-Homogeneous Poisson Processes for Twitter Retweets 2020

C. Lee and D. J. Wilkinson
Journal of the American Statistical Association **115** (529), 1–15

Performance and Sensitivities of Home Detection on Mobile Phone Data 2020

M. Vanhoof, C. Lee and Z. Smoreda
Big Data Meets Survey Science: A Collection of Innovative Methods

A Review of Stochastic Block Models and Extensions for Graph Clustering 2019

C. Lee and D. J. Wilkinson
Applied Network Science **4** (1), 122

Validity and Reliability of an Online Self-report 24-h Dietary Recall Method (Intake24): A Doubly Labelled Water Study and Repeated-measures Analysis 2019

E. Foster, C. Lee, F. Imamura, S. E. Hollidge et al.
Journal of Nutritional Science, 8

Weaving the Topics of CHI: Using Citation Network Analysis to Explore Emerging Trends 2019

C. Lee, A. Garbett, J. Wang, B. Hu and D. Jackson
Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems, 6

A Network Epidemic Model for Online Commissioning Data 2018

C. Lee, A. Garbett and D. J. Wilkinson
Statistics and Computing **28** (4), 891-904

Optimal Scaling of the Independence Sampler: Theory and Practice 2018

C. Lee and P. Neal
Bernoulli **24** (3), 1636-1652

A Social Network Analysis of Articles on Social Network Analysis 2018

C. Lee and D. J. Wilkinson

ThinkActive: Designing for Pseudonymous Activity Tracking in the Classroom

2018

A. Garbett, D. Chatting, G. Wilkinson, C. Lee and A. Kharrufa

Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 7

LearningCircle.io: Lessons Learned from Organising Courses with and without a Dedicated Platform

2018

H. Celina, C. Lee, P. Olivier and A. Kharrufa

EdMedia+ Innovate Learning, 76-81

SUPERVISION

PhD student: Thomas Boughen

2023-

School of Mathematics, Statistics and Physics, Newcastle University

Joint supervision; Topic on the intersection of extreme value theory, networks, and Bayesian non-parametrics

PhD student: Aiden Farrell

2021-

Department of Mathematics and Statistics, Lancaster University

Joint supervision; Topic on the extremal behaviour of the nodes when a network grows

PhD student: Maarten Vanhoof

2017-2018

School of Computing, Newcastle University

Second supervisor; Thesis title: Geographical Veracity of Indicators from Mobile Phone Data

Various MSc and MMathStat students

2019-

Various

Projects ranging from statistical analyses of networks, house prices, and sports data, to building interactive visualisation web apps

TEACHING

Undergraduate and Postgraduate Teaching

2023-

School of Mathematics, Statistics and Physics, Newcastle University

Lecturer of modules for MMathStat students and MSc students in Data Science. Modules taught included *Statistical Foundations of Data Science*, *Statistical Learning Methodology*, and *Modern Bayesian Inference*.

Postgraduate Teaching

2019-22

Department of Mathematics and Statistics, Lancaster University

Lecturer of modules for MSc students in Statistics and in Data Science. Modules taught included *R programming*, *Statistical Inference*, *Generalised Linear Models*, and *Extreme Value Theory*.

Graduate Teaching Assistant

2011-2015

Department of Mathematics and Statistics, Lancaster University

Marked assignments, held workshop sessions, and provided help and feedback to students. Modules included *Bayesian Inference*, *Likelihood Inference*, *Time Series Analysis*, and *Stochastic Processes*.

PROFESSIONAL ACTIVITIES

Statisticians for Society scheme

2022

Royal Statistical Society

Pro bono consultancy for a project with the charity *Freegle*. Carried out statistical analysis that correlates successful exchanges with the distance and communication frequency between users.

CONFERENCES

useR! 2021 Conference

2021

Online

Virtual talk on *The evolution of the dependencies of CRAN packages*

Bayesian Inference in Stochastic Processes Workshop

2021

Online

Virtual talk on *A Hierarchical Model of Nonhomogeneous Poisson Processes for Twitter Retweets*

Royal Statistical Society 2019 Annual Conference

2019

Belfast, United Kingdom

Presentation given on *Clustering the Citation Network of a Computer Science Conference*

COSTNET Early Career Training Event

2019

Munich, Germany

Best Poster Award for *A Social Network Analysis of Articles on Social Network Analysis*

23rd International Conference on Computational Statistics

2018

Iasi, Romania

Presentation given on *A Social Network Analysis of Articles on Social Network Analysis*

COSTNET17 Conference on Statistical Network Science

2017

Palma de Mallorca, Spain

Poster given on *A Network Epidemic Model for Online Community Commissioning Data*

8th Conference on Extreme Value Analysis

2013

Fudan University, Shanghai

Presentation given on *Modelling Non-stationary Extremes and Threshold Uncertainty*

SKILLS

Programming

R, C++ and Python (elementary)

Text editing

EMACS, L^AT_EX, and (R)Markdown

Miscellaneous

Git and Bash

Languages

English, Cantonese Chinese (native), Mandarin Chinese (fluent)