Jie LI

CONTACT INFORMATION	Room No.: 7.13, Columbia House Department of Statistics London School of Economics and Political Science Houghton Street, London, WC2A 2AE j.li196@lse.ac.uk

EDUCATION

School of Mathematics, Statistics and Actuarial Science, University of Kent, Canterbury, United Kingdom

Ph.D., Statistics, awarded in September 2021
- Thesis Title: *Statistical Inference for High-dimensional Nonparametric Models*
- Supervisors: Professor Jian Zhang and Dr. Alfred Kume

Yunnan University, Kunming, China

M.S., Probability and Mathematical Statistics, July 2012
- Thesis Title: *Equivalence Tests and Confidence Interval Construction of Risk Difference for An Incomplete Matched-pair Design*
- Supervisor: Professor Niansheng Tang

Yunnan University, Kunming, China

B.S., Statistics, July 2009

WORKING EXPERIENCE

Research Officer (with Professor Piotr Fryzlewicz) Department of Statistics, London School of Economics and Political Science	Oct. 2021 –
Research Assistant (with Professor Shujun Li) School of Computing, University of Kent	Aug. 2021 – Sep. 2021
Lecturer in Statistics School of Mathematics and Computer Science, Dali University	Dec. 2014 – Sep. 2017
Assistant Professor in Statistics School of Mathematics and Computer Science, Dali University	Aug. 2012 – Nov. 2014

VISITING EXPERIENCE

Visiting Scholar School of Mathematics, Statistics and Actuarial Science University of Kent Inviter: Jian Zhang, Professor	20 Sept. 2015 to 20 Sept. 2016

RESEARCH INTERESTS

Nonparametric inference; High dimensional inference; Functional data analysis; Neuroscience; Matrix-variate analysis; Change-point detection; Machine learning; Causal inference

PH.D. TRAINING

London Taught Course Centre (LTCC) for students in mathematical sciences
- Asymptotic Methods and Statistical Applications, London, Feb. 2020 - Mar. 2020
- Measure-theoretic Probability, London, Feb. 2019 - Mar. 2019
- Theory of Linear Models, London, Jan. 2019 - Feb. 2019
- Fundamental Theory of Statistical Inference, London, Dec. 2017 - Jan. 2018
- Advanced Computational Methods in Statistics, London, Nov. 2017 - Dec. 2017

Academy for PhD Training in Statistics (APTS)

- One-week courses: Design of Experiments and Studies, Flexible Regression, Glasgow, United Kingdom, Aug. 2018
- One-week courses: Applied Stochastic Processes, High-dimensional Statistics, Nottingham, United Kingdom, Apr. 2018

TEACHING EXPERIENCE	**Instructor**	Winter 2012

Instructor — Winter 2012
Multivariate Statistical Analysis, Mathematical Modelling,
Probability and Mathematical Statistics
School of Mathematics and Computer Science,
Dali University

Instructor — 2013
Multivariate Statistical Analysis,
Mathematical Software (MATLAB), *Prediction and Decision*
School of Mathematics and Computer Science,
Dali University

Instructor — 2014
Multivariate Statistical Analysis, Sampling Theory
Mathematical Modelling, Prediction and Decision, Statistical Computation (R)
School of Mathematics and Computer Science,
Dali University

Instructor — Spring 2015
Econometrics, Sampling Theory
Mathematical Modelling, Prediction and Decision, Statistical Computation (R)
School of Mathematics and Computer Science,
Dali University

Instructor — Winter 2016
Econometrics, Sampling Theory
Mathematical Modelling, Statistical Computation (R)
School of Mathematics and Computer Science,
Dali University

Instructor — Spring 2017
Econometrics, Multivariate Statistical Analysis,
Probability and Mathematical Statistics, Statistical Computation (R)
School of Mathematics and Computer Science,
Dali University

Teaching Assistant (96 hours) — Academic Year: 2017-2018
MA025 — *Foundation Statistics*
MA306 — *Statistics*
MA351 — *Probability*
MA5501 — *Applied Statistical Modelling*
MA636 — *Stochastic Processes*
School of Mathematics, Statistics and Actuarial Science,
University of Kent

Teaching Assistant (96 hours) — Academic Year: 2018-2019
MA306 — *Statistics*
MA351 — *Probability*
MA5507 — *Mathematical Statistics*
MA639 — *Time Series Modelling and Simulation*
School of Mathematics, Statistics and Actuarial Science,
University of Kent

Teaching Assistant (96 hours) — Academic Year: 2019-2020
MA351 — *Probability*
MA501 — *Statistics for Insurance*
MA5507 — *Mathematical Statistics*

MA636 — *Stochastic Processes*
MA639 — *Time Series Modelling and Simulation*
School of Mathematics, Statistics and Actuarial Science,
University of Kent

TEACHING TRAINING	

- I have completed the Associate Fellowship Scheme (AFS) which is for Graduate Teaching Assistants (GTAs) in receipt of a Vice Chancellor Scholarship. It includes two 15-credit core modules: *An Introduction to Learning, Teaching and the Academic Environment* (UN819) and *Contextualising Higher Education Teaching and Learning* (UN831).
- I was approved to be granted for a teacher of Higher Education with People's Republic of China Teacher's Certification Licence.   10 July 2013
- To enhance statistical teaching skills, I attended a series of short-term Summer School for youth statisticians in west China.

  1. The Summer School for Youth Statisticians in West China, supported by NSF, 180 hours.   20 July 2015–11 Aug. 2015

  2. The Summer School for Youth Statisticians in West China, supported by NSF, 180 hours.   24 July 2013–14 Aug. 2013

  3. The Summer School for Youth Statisticians in West China, supported by NSF, 180 hours.   28 July 2012–10 Aug. 2012

AWARDS

- **Vice Chancellor's Research Scholarship**, tuition fee £13810 p.a. exemption and extra living fee £14553 p.a. for 3.5 years, University of Kent, U.K.   2017
- Certificate of Outstanding Teaching Quality, Dali University, China   2014
- Certificate of Excellent Teacher, Dali University, China   2013
- Yuehong Postgraduate Second Prize Scholarship, Yunnan University, Kunming, China (CNY: 3000)   2012
- Wu Daguan Outstanding Students Scholarship, Yunnan University, Kunming, China (CNY: 1500)   2011
- Merit Student in Yunnan Province, Yunnan, China   2011
- Postgraduate First Prize Scholarship, Yunnan University, Kunming, China (CNY: 8000)   2011
- Postgraduate Second Prize Scholarship, Yunnan University, Kunming, China (CNY: 5000)   2010
- Outstanding Graduates, Yunnan University, Kunming, China   2009
- Outstanding Prize Scholarship, Yunnan University, China (CNY: 6000)   2008
- **First Prize of Contemporary Undergraduate Mathematical Contest in Modelling (CUMCM)**, China (CNY: 10000)   2007
- Third Prize Scholarship, Yunnan University, China (CNY: 1000)   2007
- Second Prize Scholarship, Yunnan University, China (CNY: 1500)   2006

SOFTWARE AND LANGUAGE SKILLS

Computer Programming:

- Proficient in data analysis using **R, MATLAB** and **Python**.
- Intermediate in C++, LaTeX, Git, Linux, Microsoft Office, SQL
- **R** package: *llfdr* for my Ph.D. thesis
- Parallel scientific computation in High Performance Cluster using 96 CPU cores and 2x NVidia Tesla K80 GPU/Compute Cards (∼10k GPU cores)
- Real Big Data Analysis: Human brain source localization based on the neuroscience dataset (50+Gb). This dataset includes 18 participants' MRI + MEG/EEG data, I firstly build the 3D human brain model based on MRI using **FreeSurfer** in Linux server, then I use **MNE-Python** combining the factorization estimation of nonparametric covariance model to analyse the MEG/EEG data and find the

source localization of each participant. Based on the results, further comparison studies are implemented, see the examples 1, 2 and 3.

Chinese:
- Mothertongue, very fluent in speaking, reading and writing.

English:
- Good listening, speaking, reading, and writing skills.
- IELTS for Academic (2017): Listening: 6.0, Reading: 7.0, Writing: 6.0, Speaking: 5.5, Overall: 6.0.
- Passed College English Test (CET) Band 6, Peoples' Republic of China.

PROFESSIONAL MEMBERSHIP
- Royal Statistical Society (RSS)
- International Chinese Statistical Association (ICSA)

INTERPERSONAL SKILLS
- Problem-solving.
- Team-work.
- Time and task Management.
- Hard-working, responsible.
- Conflict management and resolution skills

GRANTS
- Refinement Procedure for Eigen Genes in DNA Microarray based on GLasso method, Department of Yunnan Technology (Grant No. 2013FD037, CNY: 60,000), **PI**, completed.
- Refinement Procedure for Eigen Genes of Colon Carcinoma Based on algorithm method, Dali University (Grant No. KYQN201219, CNY: 5,000), **PI**, completed.
- Statistical inference and application of complex data nonlinear model, National Natural Science Foundation of China (Grant No. 10961026, CNY: 200,000), contributor, completed.

FULL PUBLICATION LIST

In-preparation

[1] **Li, Jie** and Zhang, Jian. **2021a**. "Divide-and-Combine Estimation of High-dimensional Nonparametric Covariance Models". *To be submitted to Journal of Nonparametric Statistics.*
[2] **Li, Jie** and Zhang, Jian. **2021b**. "Nonparametric Relative Measure in Application of Change-point Detection of Time Series Segments". *To be submitted to Statistica Sinica.*

Published/Accepted Journal Publications:

[3] Zhang, Jian and **Li, Jie**. **Mar. 31, 2021**. "Factorized Estimation of High-dimensional Nonparametric Covariance Models". *Scandinavian Journal of Statistics*, pp. 1–26. DOI: 10.1111/sjos.12529.
[4] Tang, Nian-Sheng, Li, Hui-Qiong, Tang, Man-Lai, and **Li, Jie**. **Mar. 3, 2016**. "Confidence Interval Construction for the Difference between Two Correlated Proportions with Missing Observations". *Journal of Biopharmaceutical Statistics* 26.2, pp. 323–338. DOI: 10.1080/10543406.2014.1000544.

PRESENTATIONS
Invited Talk
- The 10th ICSA International Conference on Global Growth of Modern Statistics in the 21st Century, Shanghai Jiao Tong University, Shanghai, China   Dec. 2016

Contributed Talk
- Scientific Computing Tips of Using R and Rcpp, University of Kent. 27 Apr. 2020
- Covariance Regression Analysis, University of Kent. 17 May 2019
- The Joint Graphical Lasso for Inverse Covariance Estimation across Multiple Classes, University of Kent. 09 Nov. 2018
- Local Nonparametric Shrinkage Covariance Model, University of Kent. Nov. 2017

WEBSITES
- GitHub: https://github.com/Jieli12
- Research Gate: https://www.researchgate.net/profile/Jie-Li-271
- LinkedIn: https://www.linkedin.com/in/jie-li-01aa84211/
- ORCID ⓘ: 0000-0001-8353-1322