Fan Cheng

Curriculum Vitae
January 2024

📍 Department of Econometrics & Business Statistics, Monash University, VIC 3800, Australia.
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Education and qualifications

2019–2023	Ph.D. in Statistics	Monash University, Australia
	Thesis:	*Manifold Learning on Empirical Probability Distributions*
	Supervisors:	Prof. Rob J Hydman and A/Prof. Anastasios Panagiotelis
2016–2018	M. in Applied Statistics	Central University of Finance and Economics, China
	Supervisor:	A/Prof. Feng Li
2012–2016	B.Ec in Statistics	Central University of Finance and Economics, China

Working papers

Cheng, F., Panagiotelis, A., & Hyndman, R. J. (2022). The effect of COVID-19 lockdowns on electricity demand in Melbourne.

Cheng, F., Panagiotelis, A., & Hyndman, R. J. (2022). Distortion-corrected kernel density estimate on Riemannian manifolds.

Cheng, F., Hyndman, R. J., & Panagiotelis, A. (2021). Computationally Efficient Learning of Statistical Manifolds. arXiv preprint arXiv:2103.11773. (Under review)

Research experience

2018.07–2019.01 **Research Assistant**, National Natural Science Foundation of China Project
➤ Assisted in the project *Efficient Bayesian Flexible Density Methods with High Dimensional Financial Data*.
➤ Completed the stochastic gradient descent application of housing price to the multivariate response surface model.
➤ Completed the thesis titled *Volatility Analysis of Housing Prices with Bayesian Response Surface Optimization*.

2013.04–2014.04 **Main Participant**, National Undergraduate Innovation and Entrepreneurship Training Program of China
➤ Initiated a municipal project, made overall arrangements for the project, from research proposal, project fund application, plan of the theoretical approaches and empirical analysis of the questionnaire data.
➤ Won the Excellent Prize upon the accomplishment of the research project.
➤ Completed the paper titled *Feasibility Analysis for Developing Commercial Insurance for Losing Only-child Problem*.

Employment history

2022.10–	**Senior Research Officer**, Bureau of Crime Statistics and Research, Department of Communities and Justice
2020.07–2023.07	**Teaching Associate**, Department of Econometrics and Business Statistics, Monash University
	- ETC5513 Collaborative and reproducible practices, 2021S1, 2022S1, 2023S1
	- ETC5523 Communicating with data, 2021S2
	- ETF3500/ETF5500 High Dimensional Data Analysis, 2020S2, 2021S2
2019.07–	**Data Fluency Associate Instructor**, Library Research Division, Monash University Library
	- Monash Data Fluency introductory and intermidiate workshops on R, Python, Git, Unix, HPC, etc.
2020.07–2020.12	**Course Mentor**, Monash University Online Microcredential *Data Science: Data-Driven Decision Making*

Conference presentations

➤ Invited talk, Anomaly detection and forecasting using machine learning methods, The 16th International Conference on Computational and Financial Econometrics (CFE 2022), King's College London, UK, December 17-19, 2022.

➤ Contributed talk, Anomaly detection with kernel density estimation on manifolds, The 24th International Conference on Computational Statistics, The University of Bologna, Italy, August 23-26, 2022.

➤ Contributed talk, Manifold learning with approximate nearest neighbors, Early Career and Student Statisticians Conference 2021, online, July 30, 2021.

➤ Participants talk, Manifold learning with approximate nearest neighbors, Australian Mathematical Sciences Institute (AMSI) Winter School 2021, online, July 16, 2021.

➤ Short interactive talk, Computationally efficient learning of statistical manifolds, Data Science, Statistics and Visualisation (DSSV) and European Conference on Data Analysis (ECDA), online, July 8, 2021.

➤ Contributed talk, Manifold learning with approximate nearest neighbors, Australian Statistical Society and New Zealand Statistical Association Conference 2021, Melbourne (Hybrid), July 6, 2021.

➤ Contributed talk, Getting it right: improving forecast accuracy and learning techniques Session, Monash Business School Doctoral Research Colloquium, Melbourne, December 6, 2020.

Internship experience

2016.09–2017.09 **Big Data Analyst**, Shanghai Power Xene Digital Technology Company, Beijing, China
2016.03–2016.04 **Research Assistant**, China Life Insurance Company Limited, Beijing, China
2015.01–2015.02 **Consultant Assistant**, Industrial and Commercial Bank of China (ICBC), Hubei, China

Society memberships

Member   Statistical Society of Australia (SSA)
Member   International Association for Statistical Computing (IASC)
Member   Australian Research Council Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS)

Computer skills

Proficient in R, Git/GitHub, LaTex
Skilled in GNU/Linux and have experience on high performance Linux clusters
Intermediate in Python, HTML/CSS

Honours and awards

2022   Graduate Research Completion Award (GRCA), Monash University
2022   Purple Letter (Outstanding Unit Evaluation of Teaching) for Tutoring ETC5513 2022S1, Monash Business School
2022   Purple Letter for Tutoring ETF3500 2021S2, Monash Business School
2021   Purple Letter for Tutoring ETC5513 2021S1, Monash Business School
2021   Runner-up for AMSI Winter School Participants Talk, Australian Mathematical Sciences Institute
2021   ACEMS Business Analytics Prize($3000) for 2021, ARC Centre of Excellence for Mathematical & Statistical Frontiers
2019   Monash Graduate Scholarship, Monash University, yearly from 2019 to 2022
2019   Monash International Tuition Scholarship, Monash University, yearly from 2019 to 2022
2018   Outstanding Postgraduate Student, Central University of Finance and Economics (CUFE)
2017   First Prize Academic Scholarship for Graduate Student, CUFE
2016   Outstanding Undergraduate Student, CUFE
2016   Scholarship for All-Round Development, CUFE, yearly from 2013 to 2016
2016   Scholarship for Excellent Academic Innovation, CUFE
2015   Excellent Prize in National Undergraduate Statistical Contest in Modeling, Statistical Education Society of China
2015   Second Prize in Contemporary Undergraduate Mathematical Contest in Modeling, China Society for Industrial and Applied Mathematics
2015   National Endeavor Scholarship, Beijing Municipal Commission of Education
2014   Scholarship for Excellent Student Cadre, CUFE
2013   Excellent Student Cadre, School of Statistics and Mathematics, CUFE

Referees

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