

Zhangdaihong (Jessie) Liu

Email: Zhangdaihong.liu@warwick.ac.uk

Website: <http://www2.warwick.ac.uk/zhangdaihongliu>

Github: @lzdzh

Motivation

I am excited by machine learning and statistical models, especially their applications to health/medical related real-world problems. Particularly, I am interested in latent variable model, multivariate analysis, predictive modelling and reproducible research. I enjoy working with others and trying to find the most pragmatic solutions to the problem with the team.

Education

2017 – current	Visiting PhD, Big Data Institute, University of Oxford, UK
2015 – current	PhD, Mathematics for Real-World Systems CDT, University of Warwick, UK Research area: Computational Neuroimaging and Behaviours. Summary: Applying machine learning and statistical methods to explore associations between neuroimaging and behavioural data with the focus on improving interpretability of latent variable models. Awarded Warwick-China Joint PhD Scholarship.
2017 – 2018	Enrichment student, The Alan Turing Institute, London, UK
2014 – 2015	MSc, Mathematics for Real-World Systems CDT, University of Warwick, UK Individual project: Survival Following Pancreatoduodenectomy in England: Perspectives from the HES Database (collaborated with University Hospital Birmingham). Group project: Using Multi-omic Cancer Data to Find Ways to Improve the Treatment of Bladder Cancer (collaborated with University Hospital Birmingham). Classification: Distinction.
2013 – 2014	MSc, Mathematical Finance, Loughborough University, UK MSc project: Simulating Sample Paths of Stochastic Processes Arising in Financial Engineering. Main skills: Numerical simulation, stochastic processes & programming. Classification: Distinction. Awarded First-class China Partnership Scholarship.
2012 – 2013	Exchange year, Mathematics, Loughborough University, UK BSc project: Spreading of Water Waves. Main skills: Mathematical modelling, differential equations, numerical simulation & programming. Classification: First-class honours. Awarded First-class China Partnership Scholarship.
2009 – 2012	BSc: Mathematics and Applied Mathematics, Shandong University, China GPA: 84.3

Details of all above projects can be found on my Github.

Computer Skills

- **Python:** Current language for PhD research. 2 years+ experience. Packages used for implementing neural networks: mxnet, keras.
- **Matlab:** Previous language for PhD research. 3 years+ experience.

- **C/C++:** Used on a few projects and courseworks in Bachelor and both of my Masters degrees; tutored a C++ module for one year and half.
- **R:** Used intensively on two Masters projects lasted for 6 months. Occasionally use now.
- **GPU computing:** Introductory knowledge in GPU computing including using CUDA and implementing deep learning.
- **Spark, cluster computing, BASH, Latex, Maple & Microsoft Office.**

Publications

Liu, Z., Peneva, I. S., Evison, F., Sahdra, S., Mirza, D. F., Charnley, R. M., Savage, R. S., Moss, P. A. and Roberts, K. J. (2018) *Ninety day mortality following pancreatoduodenectomy in Q11England : has the optimum centre volume been identified?* HPB . doi:10.1016/j.hpb.2018.04.008

Data Study Group team. (2018, September 13). Data Study Group Final Report: Inmarsat. Zenodo. <http://doi.org/10.5281/zenodo.1418400>

Working Experience

Jul 2019 – current	Machine learning internship: Applied Scientist, Amazon, UK.
Feb 2016 – May 2019	Associate Tutor, University of Warwick Module names: Quantitive Analysis for Management I & II (First-year modules of Warwick Business School); C++ for Quantitive Finance (Masters module of Warwick Business School); Digital Communication and Signal Processing (Second-year module of Computer Science).
Jan – Sep 2018	Science Lead/Liaison of Turing Data Study Group, The Alan Turing Insititue Serve as the main point of contact for data scientific topics for one or more potential partner organisations; Designing problem statements which balance practical and scientific concerns; Understanding the landscape of real-world business problems that could be addressed through data science.

Conferences and Meetings

Jun 2018	Organization for Human Brain Mapping Annual Meeting: 'Supervised Dimension Reduction Canonical Correlation Analysis of UK Biobank'. Authors: Zhangdaihong Liu, et al. doi:10.6084/m9.figshare.6741242.v1 Funded by the Alan Turing Institute, MathSys CDT at University of Warwick and Guarantors of Brain.
Jun 2017	Organization for Human Brain Mapping Annual Meeting: Poster presentation entitled 'Improving Stability of Imaging-Behavioral CCA with Supervised Dimension Reduction'. Funded by MathSys CDT at University of Warwick and Guarantors of Brain.
Mar 2016	EPSRC meeting: Structured Healthcare Data Mining for Neuroscience Patient Stratification and New Therapeutic Target Discovery.
Nov 2015	Pancreatic Society Annual Meeting: Abstract entitled 'Analysis of the HES database reveals a dramatic reduction in 90 day mortality following pancreaticoduodenectomy over the last 12 years' accepted.

Workshops & Study Groups

Jul 2018	Microsoft AI summer school, Cambridge, UK.
Nov 2017	Dell-sponsored NVidia CUDA and deep learning workshop. Big Data Institute, University of Oxford, UK.
Sep 2017	European Study Group with Industry 130. University of Warwick, UK. Project: Measuring Vibrations from Video Feeds.
Jun 2017	Introduction to Machine Learning Summer School. University of Warwick, UK. https://warwick.ac.uk/fac/sci/maths/research/events/2016-17/nonsymposium/iml
May 2017	The Alan Turing Institute Data Study Group, London, UK Project: Clustering of mobile game users and prediction of cluster transition with Samsung.
Apr 2016	European Study Group with Industry 116. Durham University, UK. Project: Understanding the accuracy of pre-symptomatic diagnosis of sepsis.

Other Academic Activities

Dec 2017	Facilitator of The Alan Turing Institute Data Study Group Project: Modelling and predicting spatio-temporal demand with Inmarsat.
2016 – 2017	Chair of the Warwick Neuroimaging Statistics reading group

Interests

- Bridge playing: Participated in The 9th China University Games and many other local competitions.
- Piano and keyboard playing: Passed China amateur grading test level 10 for keyboard and level 8 for piano.
- Badminton playing: Participated in many university competitions.
- I also enjoy doing weight lifting, cycling, baking and am-dram.