

# Zhangdaihong (Jessie) Liu

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## Education

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

## Computer Skills

- **Python:** Current language for PhD research. 2 years+ experience. Package 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>

## Academic Activities

Dec 2017	<b>Facilitator of The Alan Turing Institute Data Study Group</b> Project: Modelling and predicting spatio-temporal demand with Inmarsat.
2016 – 2017	<b>Chair of the Warwick Neuroimaging Statistics reading group</b> Help with organising seminars related to neuroimaging and statistical method on a weekly basis.
Occasionally	Organise seminars for external speakers in the department of Computer Science. Present research project at departmental open days.

## Working Experience

Jul 2019 – current	<b>Machine learning internship: Applied Scientist, Amazon, UK.</b>
2016 – current	<b>Associate Tutor, University of Warwick</b> Module names: Quantitative Analysis for Management I & II (First-year modules of Warwick Business School); C++ for Quantitative Finance (Masters module of Warwick Business School); Digital Communication and Signal Processing (Second-year module of Computer Science).
Jan – Sep 2018	<b>Science Lead/Liaison of Turing Data Study Group, The Alan Turing Institute</b> 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.
Aug – Sep 2013	<b>Internship at China Construction Bank Corp. Jinan Licheng Sub-branch, Jinan, China</b> Position: Company business department. Main work: Analysing financial reports; managing the client information database and visiting clients.

## 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. <b>doi:10.6084/m9.figshare.6741242.v1</b> 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.

## Talks and Presentations

2018 – 2019	NISOx (NeuroImaging and Statistics Oxford) reading group: 3 talks given.
2015 – 2017	Warwick Neurostats reading group: I have given 5 talks in this seminar series. Details of the talks: <a href="http://www2.warwick.ac.uk/fac/sci/statistics/staff/academic-research/nichols/research/neuro-stat">http://www2.warwick.ac.uk/fac/sci/statistics/staff/academic-research/nichols/research/neuro-stat</a>
May 2016	Warwick Complexity Science annual retreat: Three Minute Thesis (3MT) on links between human behaviour and brain functional connectivity.

## 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. <a href="https://warwick.ac.uk/fac/sci/math/research/events/2016-17/nonsymposium/iml">https://warwick.ac.uk/fac/sci/math/research/events/2016-17/nonsymposium/iml</a>
May 2017	The Alan Turing Institute Data Study Group, London, UK Project: Clustering of mobile game users and prediction of cluster transition with Samsung.
Mar 2017	BrainHack Warwick. University of Warwick, UK.
Oct 2016	OxWaSP symposium: New Statistical Method for Large Data. University of Warwick, UK.
Apr 2016	European Study Group with Industry 116. Durham University, UK. Project: Understanding the accuracy of pre-symptomatic diagnosis of sepsis.

## 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.