# Haziq Jamil



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I am an **Assistant Professor in Statistics** at *Universiti Brunei Darussalam* (UBD). My expertise lie in statistical methodology and computation, with applications towards the natural and social sciences.

I am passionate about bringing data and technology to the forefront of our daily interaction with the world. Using the R programming language, I build statistical models for data analysis in order to gain insights, make predictions, and aid decision-making. I am frequently engaged in cross-disciplinary research collaborations and statistical consultations.

#### Research Interests

Latent variable models

Binary and multinomial probit

models

Bayesian estimation

Carrier of the structural equation models

Truncated normal distribution

EM algorithms

Variational inference

#### **Education**

2014 — 2018 **PhD in Statistics**, London School of Economics and Political Science Supervisors: Wicher Bergsma1 and Irini Moustaki2

Thesis: Regression modelling using priors depending on Fisher information covariance kernels (I-priors)3

2013 — 2014 MSc in Statistics (distinction), London School of Economics and Political Science

2006 — 2010 BSc & Master in Mathematics, Operational Research, Statistics and Economics (first class honours), University of Warwick

Supervisor: David Firth4

Dissertation: The analysis of paired comparison data using Bradley-Terry models with applications to football data

## Awards & honours

2020 Arnold Zellner Thesis Award in Econometrics and Statistics (honourable mention)5, American Statistical Association (Business and Economic Statistics Section)

2013 — 2018 In-Service Training Scheme Scholarship, Public Service Commission, Prime Minister's Office, Brunei

2006 — 2010 Supreme Commander of The Royal Brunei Armed Forces Scholarship6, Ministry of Defence, Brunei

Anugerah Penuntut Terbaik Tahun 2005 (Best Student Award 2005), Persatuan Guru-Guru Melayu Brunei (PGGMB)

## **Employment**

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Mathematical Sciences, Faculty of Science, Universiti Brunei Darussalam7

I teach SM-1402 Basic Statistics, SM-2302 Software for Mathematicians, SM-4331 Advanced Statistics, SM-4335 Advanced Probability, and CU-0304 Sciences for University Study. I also supervise mathematics students' final year projects. In addition to my teaching duties, I am the current Postgraduate Coordinator (Mathematics). I previously held the post of Discovery Year8 advisor (2019-2021).

#### 2014 — 2018 Graduate Teaching Assistant

Department of Statistics, London School of Economics and Political Science9

I held various teaching roles ranging from secondary teaching to marking for masters (ST416 Multilevel Modelling, ST421 Development in Statistical Methods) and undergraduate level courses (ST312 Applied Statistics Project) at the LSE. In addition, I also held assistant invigilator and examiner roles for both the LSE and the University of London International Examinations respectively.

#### 2010 — 2019 Research Officer

Centre for Science and Technology, Research and Development (CSTRAD), Ministry of Defence, Brunei 10

I provided analytical insight into matters arising from strategic procurement activities of the Royal Brunei Armed Forces (RBAF). This entailed market research, cost-benefit analyses, and writing technical reports. I was a core team member for the procurement and delivery of 12 Sikorsky S-70i helicopters11 (US\$325M), and also the focal point for the development of tender evaluation criteria using the Analytic Hierarchy Process.

### **Service**

2020 — present Ad-hoc Reviewer

Annals of Applied Statistics 12; Journal of the Royal Statistical Society: Series C13

2020 — present Review Editor

Frontiers in Applied Mathematics and Statistics 14

2020 Guest Lecturer

Universiti Teknologi Brunei 15

2014 — 2015 MSc Programme Facebook Administrator

Department of Statistics, London School of Economics and Political Science Acted as student liaison for incoming cohort of MSc Statistics 2015/16.

2013 — 2015 Auditor

Brunei Down's Syndrome Association (ABLE)16

# Consultancy

2017 — 2018 **Data Analyst** 

Universiti Brunei Darussalam

Project: The unmet needs of cancer carers in Brunei Darussalam.

2021 — 2022 Statistical Modelling Ministry of Defence, Brunei Project: Human performance optimisation

2021 — 2024 Extension of I-prior methodology to nominal response models (~BND 7,000), Faculty of Science Research Grant, *Universiti Brunei Darussalam*. Role: *Principal Investigator* 

2021 — 2023 **Examining spillover effects in regional trading blocs** (~BND 17,000), School of Business and Economics Research Grant, *Universiti Brunei Darussalam*.

Role: Member

2021 — 2024 Mathematical Modeling of Genetic Assimilation (~BND 8,000), Faculty of Science Research Grant, *Universiti Brunei Darussalam*.

Role: Co-Principal Investigator

2023 — 2024 Predictive potential of graphical descriptors for QSPR/QSAR model learning of compounds (~BND 15,700), Faculty of Science Research Grant, *Universiti Brunei Darussalam*.

Role: Co-Principal Investigator

# Research output

#### Articles (peer-reviewed)

- Factors Affecting Readmission to a Drug Rehabilitation Centre F. Jali, E. Leong, *H. Jamil*Journal of Population and Social Studies, 30, 591-601.
  - A6 Iron and Manganese Mobilisation due to Dam Height Increase for a Tropical Reservoir in South East Asia
    S. Gödeke, H. Jamil, M. Schirmer, A. Bretzler, N. Shamsuddin, N. H. Mansor
  - Environmental Monitoring and Assessment, 194(5), 358.

    Pairwise likelihood estimation for confirmatory factor analysis models with

categorical variables and data that are missing at random M. Katsikatsou, I. Moustaki, *H. Jamil* British Journal of Mathematical and Statistical Psychology, 75(2) 23-45.

Wiley Top Downloaded Article 2021

Advocating Blended Learning for University Undergraduate Level Mathematical Instruction Beyond Covid-19

H. Jamil, H. M. Ramli, E. Leong

In: Engineering and Sciences Teaching and Learning Activities: New Systems Throughout COVID-19 Pandemics, pp. 33-45. Ed. by Samsul Ariffin Abdul Karim and Saiful Azmi Hussain. Studies in Systems, Decision and Control, vol 381. Cham: Springer. ISBN: 978-3-030-79613-6.

A3 Latent Class Analysis: Insights about design and analysis of schistosomiasis diagnostic studies

A. Koukounari, *H. Jamil*, E. Erosheva, C. Shiff, I. Moustaki PLOS Neglected Tropical Diseases, 15(2), e0009042.

2020	A2	Bayesian Variable Selection for Linear Models Using I-Priors  H. Jamil, W. Bergsma In: Theoretical, Modelling and Numerical Simulations Toward Industry 4.0,
		pp. 107–132. Ed. by Samsul Ariffin Abdul Karim. Studies in Systems, Decision and Control, vol 319. Singapore: Springer. ISBN: 978-981-15-8986-7.
2018	A1	Regression modelling using priors depending on Fisher information covariance kernels (I-priors)  H. Jamil
		PhD Thesis. London School of Economics and Political Science.  Arnold Zellner award, honourable mention (top 3)
		Working papers (preprints and unpublished reports)
2023	W09	An Exploratory Investigation on Foreign Language Anxiety among English for Islamic Studies Learners in Brunei Darussalam N. Noorashid, H. Jamil Manuscript in preparation
	W10	Patterns of metabolic thermal independence in marine gastropods: A meta- analytical assessment M. Akram Ullah, D. Marshall, <i>H. Jamil</i> Manuscript in preparation
	W08	Importance of Baseline Assessments: Monitoring of Sungai Brunei River's Water Quality O. Onifade, N. Shamsuddin, H. Jamil, D. T. C. Lai, S. Gödeke Manuscript in submission
	W07	Graphs with given connectivity and their minimum Sombor index with application to statistical modeling in QSPR analysis S. Hayat, M. Arshad, <i>H. Jamil</i> Manuscript in submission
2021	W06	I think I understand: Investigating misconceptions regarding hypothesis test concepts among university students A. Zaini, H. Jamil, E. Leong EdArXiv. DOI: 10.35542/osf.io/dj6x9
2020	W05	Regression modelling with I-priors: With applications to functional, multilevel and longitudinal data W. Bergsma, <i>H. Jamil</i> arXiv:2007.15766 [math, stat].
	W04	Investigating the effect of load carriage on soldiers' performances using Bayesian structural equation models  H. Jamil, A. Salleh, L. Thieng Chan
2019	W03	iprior: An R Package for Regression Modelling using I-priors H. Jamil, W. Bergsma arXiv:1912.01376 [stat].
2017	W02	<b>Discussion contribution</b> W. Bergsma, <i>H. Jamil</i> TI Cannings, RJ Samworth (2017). Random-projection ensemble classification. JRSSB, 79.4, pp. 959-1035.

#### **Software**

2021	S4	R/iprior: Regression Modelling using I-priors H. Jamil CRAN 0.7.3 downloads 33K
2020	S3	stat-tables: Open-source statistical tables for use in examinations, tests, and assignments H. Jamil release v0.2 downloads 524
2018	S2	R/ipriorBVS: Bayesian Variable Selection using I-priors H. Jamil release v0.1.1
	S1	R/iprobit: Binary and Multinomial Probit Regression with I-priors H. Jamil release v0.1
		Talks
		Further information regarding the following events are available at haziqj.ml/talk
2022	T17	<b>Teaching and Learning Centre Workshop</b> , UBD, Brunei Quality Typography in Teaching Material: An interactive introduction to LaTeX
	T16	<b>Department of Statistics and Data Science Seminar</b> , NUS, Singapore Regression modelling using I-priors
	T15	International Meeting of the Psychometric Society (IMPS), University of Bologna, Italy Selecting interaction effects in additive models using I-priors
2021	T14	MINDEF Scholars Sharing Session, Online Life After MINDEF
2020	T13	IADA Seminar, UBD, Brunei A latent variable model for maximal performance testing with dropouts for military applications
	T12	<b>Social Statistics Group Meetings</b> , LSE, London, UK Investigating the effect of load carriage on soldiers' performances using structural equation models
2019	T11	UBDSBE Seminar Invitation, UBD, Brunei Bayesian Variable Selection for Linear Models
	T10	CSTRAD Sharing Session, Ministry of Defence, Brunei Misconceptions in Demography
2018	T09	FOS Research Seminar, UBD, Brunei A Brief Guide to Variational Inference
	Т08	<b>Inaugural Workshop on Data Science Theory and Practice</b> , LSE, London, UK Binary and Multinomial Regression using Fisher Information Covariance Kernels (I-priors)

2018	T07	<b>Social Statistics Group Meetings</b> , LSE, London, UK A Beginner's Guide to Variational Inference
2017	T06	<b>Turing Data Study Group</b> , The Alan Turing Institute, London, UK Can data science help identify potential drivers of extremism?
	T05	International Meeting of the Psychometric Society (IMPS), University of Zürich, Switzerland Regression Modelling with I-Priors
	T04	<b>Department of Statistics PhD Presentation Event</b> , LSE, London, UK Binary probit regression with I-priors
2016	Т03	<b>Social Statistics Group Meetings</b> , LSE, London, UK I-priors in Bayesian Variable Selection: From Reproducing Kernel Hilbert Spaces to Hamiltonian Monte Carlo
2015	T02	<b>Postgraduate Research Seminar</b> , LSE, London, UK Two-stage Bayesian variable selection for linear models using I-priors
	T01	<b>Department of Statistics PhD Presentation Event</b> , LSE, London, UK Regression Modelling using I-priors

## **Skills**

- Programming, data analysis and visualisation using R, BUGS/JAGS, Stan, Stata, Mplus, and Mathematica
- Reproducible research using R Markdown, LaTeX, Git and AWS EC2
- ☐ Web development using HTML, CSS, Hugo, GitHub Pages and Netlify

Made with the R package pagedown. The source code is available from github.com/haziqj/cv. Document last rendered on 2023-04-13 17:04:49 [UTC].

# Links

- 1. <a href="http://stats.lse.ac.uk/bergsma/">http://stats.lse.ac.uk/bergsma/</a> ←
- 2. <a href="http://stats.lse.ac.uk/moustaki/">http://stats.lse.ac.uk/moustaki/</a> ←
- 3. <a href="https://phd.haziqj.ml/">https://phd.haziqj.ml/</a>
- 4. <a href="http://www2.warwick.ac.uk/fac/sci/statistics/staff/academic-research/firth/+">http://www2.warwick.ac.uk/fac/sci/statistics/staff/academic-research/firth/+</a>
- 5. <a href="https://community.amstat.org/businessandeconomicstatisticssection/new-item/new-i
- 6. <a href="https://scholarship.mindef.gov.bn/Theme/Home.aspx↔">https://scholarship.mindef.gov.bn/Theme/Home.aspx↔</a>
- 7. <a href="http://fos.ubd.edu.bn/">http://fos.ubd.edu.bn/</a>
- 8. <a href="https://ubdmaths.github.io/dy/←">https://ubdmaths.github.io/dy/←</a>
- 9. <a href="http://lse.ac.uk/Statistics/">http://lse.ac.uk/Statistics/</a> ←

- 10. <a href="https://www2.mindef.gov.bn/cstrad/">https://www2.mindef.gov.bn/cstrad/</a>
- 11. <a href="https://news.lockheedmartin.com/2011-12-13-Sikorsky-Signs-with-Brunei-Ministry-of-Defence">https://news.lockheedmartin.com/2011-12-13-Sikorsky-Signs-with-Brunei-Ministry-of-Defence</a>  $\underline{\text{-for-Sale-of-S-70iTM-BLACK-HAWK-Helicopters}} \boldsymbol{\leftarrow}$
- 12. <a href="https://imstat.org/journals-and-publications/annals-of-applied-statistics/">https://imstat.org/journals-and-publications/annals-of-applied-statistics/<a href="https://imstat.org/journals-and-publications/annals-of-applied-statistics/">https://imstat.org/journals-and-publications/annals-of-applied-statistics/<a href="https://imstat.org/journals-and-publications/annals-of-applied-statistics/">https://imstat.org/journals-and-publications/annals-of-applied-statistics/</a> <a href="https://imstat.org/journals-and-publications/annals-of-applied-statistics/">https://imstat.org/journals-and-publications/annals-of-applied-statistics/</a> <a href="https://imstat.org/journals-and-publications/annals-of-applied-statistics/">https://imstat.org/journals-and-publications/annals-of-applied-statistics/</a> <a href="https://imstat.org/journals-and-publications/annals-of-applied-statistics/">https://imstat.org/journals-and-publications/annals-and-publicatio
- 13. <a href="https://rss.onlinelibrary.wiley.com/journal/14679876">https://rss.onlinelibrary.wiley.com/journal/14679876</a> ←
- 14. <a href="https://www.frontiersin.org/journals/applied-mathematics-and-statistics/">https://www.frontiersin.org/journals/applied-mathematics-and-statistics/<a href="https://www.frontiersin.org/journals/applied-mathematics-and-statistics/">https://www.frontiersin.org/journals/applied-mathematics-and-statistics/</a> <a href="https://www.frontiersin.org/journals/applied-mathematics-and-statistics/">https://www.frontiersin.org/journals/applied-mathematics-and-statistics/</a> <a href="https://www.frontiersin.org/journals/applied-mathematics-and-statistics/">https://www.frontiersin.org/journals/applied-mathematics-and-statistics/</a> <a href="https://www.frontiersin.org/journals/applied-mathematics-and-statistics/">https://www.frontiersin.org/journals/applied-mathematics-and-statistics/</a> <a href="https://www.frontiersin.org/journals/applied-mathematics-and-statistics/">https://www.frontiersin.org/journals/applied-mathematics-and-statistics/</a> <a href="https://www.frontiersin.org/">https://www.frontiersin.org/</a> <a hre
- 15. <u>http://www.utb.edu.bn/</u>←
- 16. <a href="https://www.instagram.com/ablebrunei/">https://www.instagram.com/ablebrunei/</a> ←