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I am a Research Specialist working at King Abdullah University of Science and Technology (KAUST), currently on leave from my position as 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

Composite likelihood methods

Spatio-temporal models

Bayesian estimation

Integrated Nested Laplace
Approximation (INLA)

Hedonic pricing models

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

2023

Teaching Excellence Award in the Sciences, Universiti Brunei Darussalam

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

Employment

- 2025 — present **Research Specialist**
King Abdullah University of Science and Technology⁷
I conduct research on efficient Bayesian computational methods for latent variable modeling within the BAYESCOMP group led by Prof. Håvard Rue.
- 2024 — 2027 **Visiting Fellow**
Department of Statistics, London School of Economics and Political Science⁸
The School's Visiting Appointments Scheme is a device to help Departments, Institutes and Centres invite staff who are either practitioners or academics in other institutions to conduct research and other activities.
- 2019 — present **Assistant Professor in Statistics**
Mathematical Sciences, Faculty of Science, *Universiti Brunei Darussalam*⁹
[Leave of absence from August 2025]
- 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 Year¹⁰ advisor (2019-2021).
- 2010 — 2014
2018 — 2019 **Graduate Teaching Assistant**
Department of Statistics, London School of Economics and Political Science¹¹
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, Brunei¹²
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 helicopters¹³ (US\$325M), and also the focal point for the development of tender evaluation criteria using the Analytic Hierarchy Process.

Service

- 2024 — 2026 **Chair**
Brunei R User Group¹⁴
- 2020 — present **Ad-hoc Reviewer**
Annals of Applied Statistics¹⁵; Journal of the Royal Statistical Society: Series C¹⁶
- 2020 — present **Review Editor**
Frontiers in Applied Mathematics and Statistics¹⁷
- 2020 **Guest Lecturer**
Universiti Teknologi Brunei¹⁸

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)¹⁹

Consultancy

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

2017 — 2018 **Data Analyst**
Universiti Brunei Darussalam
Project: The unmet needs of cancer carers in Brunei Darussalam.

Grants and funding

2026 — 2029 **Advancing scalable Bayesian methods for latent variable modelling** (USD 900,000), KAUST Competitive Research Grant²⁰.
Role: Co-Investigator

2024 **R User Groups (RUGS) Program Grants** (USD 500), R Consortium²¹

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

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

Research output

Articles (peer-reviewed)

2026 A19 **Bias-Reduced Estimation of Structural Equation Models**
H. Jamil, Y. Rossel, O. Kemp, I. Kosmidis
Structural Equation Modeling: A Multidisciplinary Journal, Advance online publication

2025 A18 **Conditionally Autoregressive Models for House Price Data: Insights from a Comparative Simulation Study**
I. Puteri Kinasih, H. Jamil, E. Leong
Journal of Statistical Theory and Applications. <https://doi.org/10.1007/s44199-025-00122-1>

- A17 **Leveraging sparse Gaussian processes for property price modelling and sustainable urban planning**
H. Jamil, F. Usop, H. M. Ramli
 In: S. A. Abdul Karim & A. Baharum (Eds.), *Intelligent Systems of Computing and Informatics in Sustainable Urban Development*. Taylor and Francis/CRC Press.
<https://doi.org/10.1201/9781003518396-2>
- A16 **A spatio-temporal analysis of house prices in Brunei Darussalam**
H. Jamil
 Quality & Quantity. <https://doi.org/10.1007/s11135-025-02164-0>
- A15 **From archives to AI: Residential property data across three decades in Brunei Darussalam**
H. Jamil, A. Barizah Noorasmawie, H. Waezz Rabu, L. Abdul Razak
 Data in Brief, 60, 111505. <https://doi.org/10.1016/j.dib.2025.111505>
- 2024 A14 **An Exploratory Investigation on Foreign Language Anxiety among English for Islamic Studies Learners in Brunei Darussalam**
N. Noorashid, H. Jamil
 Electronic Journal of Foreign Language Teaching, 21(2) 211-234. <https://doi.org/10.56040/nnhj2123>
- A13 **Pairwise likelihood estimation and limited-information goodness-of-fit test statistics for binary factor analysis models under complex survey sampling**
H. Jamil, I. Moustaki, C. Skinner
 British Journal of Mathematical and Statistical Psychology, 78(1), 258–285. <https://doi.org/10.1111/bmsp.12358>
- A12 **An Optimization Problem for Computing Predictive Potential of General Sum/Product-Connectivity Topological Indices of Physicochemical Properties of Benzenoid Hydrocarbons**
S. Hayat, A. Arfan, A. Khan, H. Jamil, M. J. F. Alenazi.
 Axioms 13(6). <https://doi.org/10.3390/axioms13060342>
- 2023 A11 **Importance of Baseline Assessments: Monitoring of Sungai Brunei River's Water Quality**
O. Onifade, N. Shamsuddin, H. Jamil, D. T. C. Lai, S. Gödeke
 H2Open Journal, 6(4) 518–534. <https://doi.org/10.2166/h2oj.2023.168>
- A10 **Extremal hyper-Zagreb index of trees of given segments with applications to regression modeling in QSPR studies**
S. Hayat, M. Adil Khan, A. Khan, H. Jamil, M. Yasir Hayat Malik
 Alexandria Engineering Journal, 80(1) pp.259–268
- A09 **Statistical significance of valency-based topological descriptors for correlating thermodynamic properties of benzenoid hydrocarbons with applications**
S. Hayat, N. Suhaili, H. Jamil
 Computational and Theoretical Chemistry, 114259. <https://doi.org/10.1016/j.comptc.2023.114259>
- A08 **The domination number of the king's graph**
M. Arshad, S. Hayat, H. Jamil
 Computational and Applied Mathematics, 42(251). <https://doi.org/10.1007/s40314-023-02386-8>
- 2022 A07 **Factors Affecting Readmission to a Drug Rehabilitation Centre**
F. Jali, E. Leong, H. Jamil
 Journal of Population and Social Studies, 30, 591-601.

- A06 **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.
- A05 **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**
- 2021 A04 **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.
- A03 **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 A02 **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 A01 **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)

- 2026 W11 **Implementation and Workflows for INLA-based Approximate Bayesian Structural Equation Modelling**
H. Jamil, H. Rue
arXiv:2604.00671 [stat.CO]
- W10 **Approximate Bayesian Inference for Structural Equation Models Using Integrated Nested Laplace Approximations**
H. Jamil, H. Rue
arXiv:2603.25690 [stat.ME]
- 2025 W09 **A Bayesian factor analytic approach for handling missing data in spatial regressions models**
I. Puteri Kinasih, *H. Jamil*, E. Leong
10.13140/RG.2.2.30776.61448
- 2023 W08 **Additive interaction modelling using I-priors**
W. Bergsma, *H. Jamil*
arXiv:2007.15766 [math.ST]

- W07 **Patterns of metabolic thermal independence in marine gastropods: A meta-analytical assessment**
M. Akram Ullah, D. Marshall, H. Jamil
Manuscript in preparation
- 2021 W06 **I think I understand: Investigating misconceptions regarding hypothesis test concepts among university students**
A. Zaini, H. Jamil, E. Leong
EdArXiv. <https://doi.org/10.35542/osf.io/dj6x9>
- 2020 W05 **Regression modelling with I-priors: With applications to functional, multilevel and longitudinal data**
W. Bergsma, H. Jamil
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 **Discussion contribution**
W. Bergsma, H. Jamil
TI Cannings, RJ Samworth (2017). Random-projection ensemble classification. JRSSB, 79.4, pp. 959-1035.
- 2010 W01 **Analysis of paired comparison data using Bradley-Terry models with applications to football data**
H. Jamil
Masters Thesis. University of Warwick.

Software

- 2026 S6 **R/INLAvaan: Approximate Bayesian Latent Variable Analysis**
H. Jamil
CRAN 0.2.4 downloads 892
- 2024 S4 **R/bruneimap: Maps and Spatial Data of Brunei**
H. Jamil
release v0.3.1
- S5 **R/brlavaan: Bias-Reduced Latent Variable Analysis**
H. Jamil, Y. Rossel, O. Kemp, I. Kosmidis
release no releases or repo not found
- 2023 S3 **R/lavaan.bingof: Binary Goodness-of-Fit Tests for Factor Analysis Models**
H. Jamil
release no releases or repo not found
- 2021 S2 **R/iprior: Regression Modelling using I-priors**
H. Jamil
CRAN 0.7.4 downloads 45K

2020 S1 **stat-tables: Open-source statistical tables for use in examinations, tests, and assignments**
H. Jamil
release v0.2 downloads 1.1k

Talks

Further information regarding the following events are available at haziqj.ml/talk

- 2026 T31 **Psychoco 2026**, Università di Padova, Italy
Approximate Bayesian inference for Structural Equation Models (SEM): The INLA approach
- T30 **Social Statistics Group Meetings**, LSE, London, UK
Approximate Bayesian inference for Structural Equation Models (SEM): The INLA approach
- 2025 T29 **Graduate Statistics Seminar**, KAUST, Kingdom of Saudi Arabia
Bias-reduced estimation of structural equation models
- T28 **Guest lecture for Calculus I (MAT183)**, Universiti Teknologi Mara (UiTM) Sarawak Branch
Calculus: Differentiation and its Applications (A statistical perspective)
- T27 **Seminar talk on R programming**, Authority for Info-communications Technology Industry (AITI)
R for Data Science
- 2024 T26 **KAUST STAT Workshop 2024**, KAUST, Kingdom of Saudi Arabia
Leveraging INLA for estimating Bayesian latent variable models
- T25 **Department of Statistics and Data Science Seminar**, NUS, Singapore
Weighted pairwise likelihood goodness-of-fit tests for binary factor models
- T24 **Mathematical Science Departmental Seminar**, UBD, Brunei
Item Response Theory (IRT) models: Reducing bias in small samples
- T23 **International Meeting of the Psychometric Society (IMPS)**, Prague University of Economics and Business, Czech Republic
Empirical bias-reducing adjustments for Item Response Theory (IRT) models
- T22 **Adolphe Quetelet Seminar Series**, Ghent University, Belgium
Weighted pairwise likelihood and limited information goodness-of-fit tests for binary factor models
- T21 **Brunei R User Group Meetup**, UBD Startup Centre
Analysing spatial data using R
- 2023 T20 **Social Statistics Seminar**, LSE, London, UK
Spatio-temporal modelling of property prices in Brunei Darussalam
- T19 **Mathematical Science Departmental Seminar**, UBD, Brunei
Pairwise likelihood goodness of fit tests for binary factor models
- T18 **International Meeting of the Psychometric Society (IMPS)**, University of Maryland, USA
Pairwise likelihood goodness of fit tests for binary factor models

2022	T17	Teaching and Learning Centre Workshop , UBD, Brunei Quality Typography in Teaching Material: An interactive introduction to LaTeX
	T16	Department of Statistics and Data Science Seminar , 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	Social Statistics Group Meetings , 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
	T08	Inaugural Workshop on Data Science Theory and Practice , LSE, London, UK Binary and Multinomial Regression using Fisher Information Covariance Kernels (I-priors)
	T07	Social Statistics Group Meetings , LSE, London, UK A Beginner's Guide to Variational Inference
2017	T06	Turing Data Study Group , 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	Department of Statistics PhD Presentation Event , LSE, London, UK Binary probit regression with I-priors
2016	T03	Social Statistics Group Meetings , LSE, London, UK I-priors in Bayesian Variable Selection: From Reproducing Kernel Hilbert Spaces to Hamiltonian Monte Carlo
2015	T02	Postgraduate Research Seminar , LSE, London, UK Two-stage Bayesian variable selection for linear models using I-priors
	T01	Department of Statistics PhD Presentation Event , 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 Quarto, 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 2026-04-14 06:44:06.894357 [UTC].

Links

1. <http://stats.lse.ac.uk/bergsma/>
2. <http://stats.lse.ac.uk/moustaki/>
3. <https://phd.haziqj.ml/>
4. <http://www2.warwick.ac.uk/fac/sci/statistics/staff/academic-research/firth/>
5. <https://community.amstat.org/businessandeconomicstatisticssection/new-item/new-item2>
6. <https://scholarship.mindef.gov.bn/Theme/Home.aspx>
7. <http://bayescomp.kaust.edu.sa/>
8. <http://lse.ac.uk/Statistics/>
9. <http://fos.ubd.edu.bn/>
10. <https://ubdmaths.github.io/dy/>
11. <http://lse.ac.uk/Statistics/>
12. <https://www2.mindef.gov.bn/cstrad/>
13. <https://news.lockheedmartin.com/2011-12-13-Sikorsky-Signs-with-Brunei-Ministry-of-Defence-for-Sale-of-S-70iTM-BLACK-HAWK-Helicopters>
14. <https://bruneir.github.io>
15. <https://imstat.org/journals-and-publications/annals-of-applied-statistics/>
16. <https://rss.onlinelibrary.wiley.com/journal/14679876>
17. <https://www.frontiersin.org/journals/applied-mathematics-and-statistics/>
18. <http://www.utb.edu.bn/>
19. <https://www.instagram.com/ablebrunei/>
20. <https://bayescomp.kaust.edu.sa/articles/2026/03/10/bayescomp-group-secures-crg-funding-revolutionize-latent-variable-modeling>
21. <https://www.r-consortium.org/all-projects/r-user-group-support-program>