# Haziq Jamil

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https://haziqj.ml 🌐

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.

🌐 View this CV online at *haziqj.ml/cv*

## Research Interests

Latent variable models

Binary and multinomial probit models

Hedonic pricing models

Gaussian processes

Composite likelihood methods

Spatio-temporal models

Bayesian estimation

## Education

**2014 — 2018**   **PhD in Statistics**, London School of Economics and Political Science
Supervisors: Wicher Bergsma[1] and Irini Moustaki[2]
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 Firth[4]
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 Scholarship**[6], Ministry of Defence, Brunei

# Employment

**2024 — 2027**

**Visiting Fellow**
Department of Statistics, London School of Economics and Political Science[7]
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*[8]
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 Year[9] advisor (2019-2021).

**2014 — 2018**

**Graduate Teaching Assistant**
Department of Statistics, London School of Economics and Political Science[10]
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 — 2014**
**2018 — 2019**

**Research Officer**
Centre for Science and Technology, Research and Development (CSTRAD), Ministry of Defence, Brunei[11]
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 helicopters[12] (US$325M), and also the focal point for the development of tender evaluation criteria using the Analytic Hierarchy Process.

# Service

**2024 — present**

**Chair**
Brunei R User Group[13]

**2020 — present**

**Ad-hoc Reviewer**
Annals of Applied Statistics[14]; Journal of the Royal Statistical Society: Series C[15]

**2020 — present**

**Review Editor**
Frontiers in Applied Mathematics and Statistics[16]

**2020**

**Guest Lecturer**
Universiti Teknologi Brunei[17]

**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)[18]

# 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

# Grants and funding

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*

2024   **R User Groups (RUGS) Program Grants** (USD 500), R Consortium[19]

# Research output

## Articles (peer-reviewed)

2025   A16   **A spatio-temporal analysis of house prices in Brunei Darussalam**
*H. Jamil*
Quality & Quantity. In press.

A15   **From archives to AI: Residential property data across three decades in Brunei
Darussalam**
*H. Jamil*, A. Barizah Noorosmawie, H. Waezz Rabu, L. Abdul Razak
Data in Brief, 60, 111505. https://doi.org/10.1016/j.dib.2025.111505

2024   A14   **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, in press.
arXiv:2311.02543 [stat.ME]

**A13**    **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, in press.

**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). DOI: 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. DOI: 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. DOI: 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). DOI: 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.

| 2020 | A02 | **Bayesian Variable Selection for Linear Models Using I-Priors**<br>*H. Jamil*, W. Bergsma<br>In: Theoretical, Modelling and Numerical Simulations Toward Industry 4.0,<br>pp. 107–132. Ed. by Samsul Ariffin Abdul Karim. Studies in Systems, Decision and<br>Control, vol 319. Singapore: Springer. ISBN: 978-981-15-8986-7. |
|------|------|------|
| 2018 | A01 | **Regression modelling using priors depending on Fisher information**<br>**covariance kernels (I-priors)**<br>*H. Jamil*<br>PhD Thesis. London School of Economics and Political Science.<br>🏅 Arnold Zellner award, honourable mention (top 3) |

## Working papers (preprints and unpublished reports)

| 2024 | W9 | **An Exploratory Investigation on Foreign Language Anxiety among English for**<br>**Islamic Studies Learners in Brunei Darussalam**<br>N. Noorashid, *H. Jamil*<br>Electronic Journal of Foreign Language Teaching, 21(2) 211-234. DOI:<br>10.56040/nnhj2123 |
|------|------|------|
| 2023 | W8 | **Additive interaction modelling using I-priors**<br>W. Bergsma, *H. Jamil*<br>arXiv:2007.15766 [math.ST] |
|      | W7 | **Patterns of metabolic thermal independence in marine gastropods: A meta-**<br>**analytical assessment**<br>M. Akram Ullah, D. Marshall, *H. Jamil*<br>Manuscript in preparation |
| 2021 | W6 | **I think I understand: Investigating misconceptions regarding hypothesis test**<br>**concepts among university students**<br>A. Zaini, *H. Jamil*, E. Leong<br>EdArXiv. DOI: 10.35542/osf.io/dj6x9 |
| 2020 | W5 | **Regression modelling with I-priors: With applications to functional, multilevel**<br>**and longitudinal data**<br>W. Bergsma, *H. Jamil*<br>arXiv:2007.15766 [math, stat]. |
|      | W4 | **Investigating the effect of load carriage on soldiers' performances using**<br>**Bayesian structural equation models**<br>*H. Jamil*, A. Salleh, L. Thieng Chan |
| 2019 | W3 | **iprior: An R Package for Regression Modelling using I-priors**<br>*H. Jamil*, W. Bergsma<br>arXiv:1912.01376 [stat]. |
| 2017 | W2 | **Discussion contribution**<br>W. Bergsma, *H. Jamil*<br>TI Cannings, RJ Samworth (2017). Random-projection ensemble classification.<br>JRSSB, 79.4, pp. 959-1035. |
| 2010 | W1 | **Analysis of paired comparison data using Bradley-Terry models with**<br>**applications to football data**<br>*H. Jamil*<br>Masters Thesis. University of Warwick. |

## Software

| 2025 | S9 | **R/plFA: Stochastic Pairwise Likelihood Estimation of Factor Analaysis Models** |

2025    S9    **R/plFA: Stochastic Pairwise Likelihood Estimation of Factor Analaysis Models**
G. Alfonzetti, *H. Jamil*

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2024    S6    **R/bruneimap: Maps and Spatial Data of Brunei**
*H. Jamil*

`release` `v0.3.1`

       S7    **R/birt: Bias-Reduced IRT Models**
I. Kosmidis, *H. Jamil*

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       S8    **R/brlavaan: Bias-Reduced Latent Variable Analysis**
*H. Jamil*, Y. Rossel, O. Kemp, I. Kosmidis

`release` `no releases or repo not found`

2023    S5    **R/lavaan.bingof: Binary Goodness-of-Fit Tests for Factor Analysis Models**
*H. Jamil*

`release` `no releases or repo not found`

2021    S4    **R/iprior: Regression Modelling using I-priors**
*H. Jamil*

`CRAN` `0.7.4` `downloads` `40K`

2020    S3    **stat-tables: Open-source statistical tables for use in examinations, tests, and assignments**
*H. Jamil*

`release` `v0.2` `downloads` `1k`

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*

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

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|---|---|---|
| | T21 | **Brunei R User Group Meetup**, UBD Startup Centre<br>Analysing spatial data using R |
| 2023 | T20 | **Social Statistics Seminar**, LSE, London, UK<br>Spatio-temporal modelling of property prices in Brunei Darussalam |
| | T19 | **Mathematical Science Departmental Seminar**, UBD, Brunei<br>Pairwise likelihood goodness of fit tests for binary factor models |
| | T18 | **International Meeting of the Psychometric Society (IMPS)**, University of Maryland, USA<br>Pairwise likelihood goodness of fit tests for binary factor models |
| 2022 | T17 | **Teaching and Learning Centre Workshop**, UBD, Brunei<br>Quality Typography in Teaching Material: An interactive introduction to LaTeX |
| | T16 | **Department of Statistics and Data Science Seminar**, NUS, Singapore<br>Regression modelling using I-priors |
| | T15 | **International Meeting of the Psychometric Society (IMPS)**, University of Bologna, Italy<br>Selecting interaction effects in additive models using I-priors |
| 2021 | T14 | **MINDEF Scholars Sharing Session**, Online<br>Life After MINDEF |
| 2020 | T13 | **IADA Seminar**, UBD, Brunei<br>A latent variable model for maximal performance testing with dropouts for military applications |
| | T12 | **Social Statistics Group Meetings**, LSE, London, UK<br>Investigating the effect of load carriage on soldiers' performances using structural equation models |
| 2019 | T11 | **UBDSBE Seminar Invitation**, UBD, Brunei<br>Bayesian Variable Selection for Linear Models |
| | T10 | **CSTRAD Sharing Session**, Ministry of Defence, Brunei<br>Misconceptions in Demography |
| 2018 | T09 | **FOS Research Seminar**, UBD, Brunei<br>A Brief Guide to Variational Inference |
| | T08 | **Inaugural Workshop on Data Science Theory and Practice**, LSE, London, UK<br>Binary and Multinomial Regression using Fisher Information Covariance Kernels (I-priors) |
| | T07 | **Social Statistics Group Meetings**, LSE, London, UK<br>A Beginner's Guide to Variational Inference |
| 2017 | T06 | **Turing Data Study Group**, The Alan Turing Institute, London, UK<br>Can data science help identify potential drivers of extremism? |
| | T05 | **International Meeting of the Psychometric Society (IMPS)**, University of Zürich, Switzerland<br>Regression Modelling with I-Priors |
| | T04 | **Department of Statistics PhD Presentation Event**, LSE, London, UK<br>Binary probit regression with I-priors |

| 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 2025-04-29 20:41:21.606358 [Asia/Brunei].

# 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://lse.ac.uk/Statistics/↵
8. http://fos.ubd.edu.bn/↵
9. https://ubdmaths.github.io/dy/↵
10. http://lse.ac.uk/Statistics/↵
11. https://www2.mindef.gov.bn/cstrad/↵
12. https://news.lockheedmartin.com/2011-12-13-Sikorsky-Signs-with-Brunei-Ministry-of-Defence-for-Sale-of-S-70iTM-BLACK-HAWK-Helicopters↵
13. https://bruneir.github.io↵
14. https://imstat.org/journals-and-publications/annals-of-applied-statistics/↵
15. https://rss.onlinelibrary.wiley.com/journal/14679876↵
16. https://www.frontiersin.org/journals/applied-mathematics-and-statistics/↵
17. http://www.utb.edu.bn/↵

18. https://www.instagram.com/ablebrunei/↩

19. https://www.r-consortium.org/all-projects/r-user-group-support-program↩