



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 to analyse data to gain insights, make predictions, and aid decision-making. I am constantly engaged in cross-disciplinary research collaborations and statistical consultations.

🌐 View this CV  
online at  
[haziqj.ml/cv](https://haziqj.ml/cv)

## Research Interests

Latent variable models

Structural equation models

Binary and multinomial probit models

Truncated normal distribution

Bayesian estimation

EM algorithms

Variational inference

## Education

2014 — 2018

**PhD in Statistics**, London School of Economics and Political Science

Supervisors: Wicher Bergsma<sup>1</sup> and Irini Moustaki<sup>2</sup>

*Thesis: Regression modelling using priors depending on Fisher information covariance kernels (I-priors)*<sup>3</sup>

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<sup>4</sup>

*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)**<sup>5</sup>, 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**<sup>6</sup>, Ministry of Defence, Brunei

2006

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

## Experience

2019 — present

### Assistant Professor in Statistics

Mathematical Sciences, Faculty of Science, *Universiti Brunei Darussalam*<sup>7</sup>

My teaching duties include SM-1402 Basic Statistics, CU-0304 Sciences for University Study, SM-4331 Advanced Statistics, SM-2401 Geometry, and SR-5101 Advanced Research Skills. I also have final-year mathematics project students whom I supervise. In addition to my teaching duties, I am one of the Discovery Year<sup>8</sup> advisors (2019-21).

2014 — 2018

### Graduate Teaching Assistant

Department of Statistics, London School of Economics and Political Science<sup>9</sup>

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<sup>10</sup>

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<sup>11</sup> (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<sup>12</sup>, Journal of the Royal Statistical Society: Series C<sup>13</sup>

2020 — present

### Review Editor

Frontiers in Applied Mathematics and Statistics<sup>14</sup>

2020

### Guest Lecturer

Universiti Teknologi Brunei<sup>15</sup>

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 Syndrom Association (ABLE)<sup>16</sup>

## Consultancy

2017 — 2018

### Data Analyst and Consultant

Universiti Brunei Darussalam

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

2021

### Data Analytics Consultant

Ministry of Defence, Brunei

Project: Human performance optimisation research

## Grants and funding

- 2021 — 2022 **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*

## Research output

### Articles (peer-reviewed)

- 2021
- A5 **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.
- A4 **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. DOI: 10.1111/bmsp.12243.
- 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)

- 2021
- W8 **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

**W7 Increase in iron and manganese due to reducing conditions at a tropical catchment in South East Asia**

S. Gödeke, H. Jamil, M. Schirmer, A. Bretzler, N. Shamsuddin, N. H. Mansor

**W5 Factors Affecting Readmission to the Drug Rehabilitation Centre in Brunei Darussalam**

F. Jali, E. Leong, H. Jamil

**W6 Regression modelling with I-priors: With applications to functional, multilevel and longitudinal data**

W. Bergsma, H. Jamil

arXiv:2007.15766 [math, stat].

**W4 Investigating the effect of load carriage on soldiers' performances using Bayesian structural equation models**

H. Jamil, A. Salleh, L. Thieng Chan

2019

**W3 iprior: An R Package for Regression Modelling using I-priors**

H. Jamil, W. Bergsma

arXiv:1912.01376 [stat].

2017

**W2 Discussion contribution**

W. Bergsma, H. Jamil

TI Cannings, RJ Samworth (2017). Random-projection ensemble classification. JRSSB, 79.4, pp. 959-1035.

2010

**W1 Analysis of paired comparison data using Bradley-Terry models with applications to football data**

H. Jamil

Masters Thesis. University of Warwick.

## Software

2021

**S4 R/iprior: Regression Modelling using I-priors**

H. Jamil

CRAN 0.7.3 downloads 26K

2020

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

H. Jamil

release v0.2 downloads 23

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

## Posters and short presentations

2018

**P3 Inaugural Workshop on Data Science Theory and Practice, LSE, London, UK**

Binary and Multinomial Regression using Fisher Information Covariance Kernels (I-priors)

2017

**P2 Turing Data Study Group, The Alan Turing Institute, London, UK**

Can data science help identify potential drivers of extremism?

P1 **International Meeting of the Psychometric Society (IMPS)**, University of Zürich, Switzerland  
Regression Modelling with I-Priors

## Talks

*Further information for the following talks are available at [haziqj.ml/talk](http://haziqj.ml/talk)*

- |      |   |
|------|---|
| 2020 | T10 <b>IADA Seminar</b> , UBD, Brunei<br>A latent variable model for maximal performance testing with dropouts for military applications                                    |
|      | T09 <b>Social Statistics Group Meetings</b> , LSE, London, UK<br>Investigating the effect of load carriage on soldiers' performances using structural equation models       |
| 2019 | T08 <b>UBDSBE Seminar Invitation</b> , UBD, Brunei<br>Bayesian Variable Selection for Linear Models   |
|      | T07 <b>CSTRAD Sharing Session</b> , Ministry of Defence, Brunei<br>Misconceptions in Demography   |
| 2018 | T06 <b>FOS Research Seminar</b> , UBD, Brunei<br>A Brief Guide to Variational Inference   |
|      | T05 <b>Social Statistics Group Meetings</b> , LSE, London, UK<br>A Beginner's Guide to Variational Inference  |
| 2017 | T04 <b>Department of Statistics PhD Presentation Event</b> , LSE, London, UK<br>Binary probit regression with I-priors  |
| 2016 | T03 <b>Social Statistics Group Meetings</b> , LSE, London, UK<br>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<br>Two-stage Bayesian variable selection for linear models using I-priors  |
|      | T01 <b>Department of Statistics PhD Presentation Event</b> , LSE, London, UK<br>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, Hugo, Jekyll, GitHub Pages and Netlify

The source code for this document is available from [github.com/haziqj/cv](https://github.com/haziqj/cv)

### sessionInfo()

```
## R version 4.1.1 (2021-08-10)
## Platform: x86_64-apple-darwin17.0 (64-bit)
## Running under: macOS Catalina 10.15.7
##
## Matrix products: default
## BLAS: /Library/Frameworks/R.framework/Versions/4.1/Resources/lib/libRblas.0.dylib
## LAPACK: /Library/Frameworks/R.framework/Versions/4.1/Resources/lib/libRlapack.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] gganimate_1.0.7      iprior_0.7.3          googlesheets4_1.0.0
## [4] glue_1.4.2           lubridate_1.7.10      knitr_1.34
## [7] forcats_0.5.1        stringr_1.4.0         dplyr_1.0.7
## [10] purrr_0.3.4          readr_2.0.1           tidyr_1.1.3
## [13] tibble_3.1.4         ggplot2_3.3.5         tidyverse_1.3.1
##
## loaded via a namespace (and not attached):
## [1] fs_1.5.0              bit64_4.0.5           progress_1.2.2        http_1.4.2
## [5] rprojroot_2.0.2      tools_4.1.1           backports_1.2.1      utf8_1.2.2
## [9] R6_2.5.1             DBI_1.1.1             colorspace_2.0-2     withr_2.4.2
## [13] tidyselect_1.1.1     prettyunits_1.1.1     processx_3.5.2       bit_4.0.4
## [17] curl_4.3.2           compiler_4.1.1        cli_3.0.1            rvest_1.0.1
## [21] xml2_1.3.2           bookdown_0.24         scales_1.1.1         mvtnorm_1.1-2
## [25] digest_0.6.27        rmarkdown_2.10        pkgconfig_2.0.3      htmltools_0.5.2
## [29] highr_0.9            dbplyr_2.1.1          fastmap_1.1.0        rlang_0.4.11
## [33] readxl_1.3.1         rstudioapi_0.13       generics_0.1.0       farver_2.1.0
## [37] jsonlite_1.7.2       vroom_1.5.4           magrittr_2.0.1       Rcpp_1.0.7
## [41] munsell_0.5.0        fansi_0.5.0           lifecycle_1.0.0      stringi_1.7.4
## [45] yaml_2.2.1           plyr_1.8.6            grid_4.1.1           parallel_4.1.1
## [49] promises_1.2.0.1     crayon_1.4.1          haven_2.4.3          hms_1.1.0
## [53] ps_1.6.0             pillar_1.6.2          reshape2_1.4.4       reprex_2.0.1
## [57] servr_0.23           evaluate_0.14         pagedown_0.15.6      gifski_1.4.3-1
## [61] modelr_0.1.8         vctrs_0.3.8           tzdb_0.1.2           tweenr_1.0.2
## [65] httpuv_1.6.3         cellranger_1.1.0      gtable_0.3.0         assertthat_0.2.1
## [69] xfun_0.25           broom_0.7.9           later_1.3.0          googledrive_2.0.0
## [73] gargle_1.2.0         websocket_1.4.1       ellipsis_0.3.2       here_1.0.1
```

## 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://fos.ubd.edu.bn/>↵

<https://ubd.edu.bn/admission/discovery-year.html>↵

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