CURRICULUM VITAE

## 1 PERSONAL PARTICULARS

| | |
|---|---|
| Name | Tengku Muhammad Hanis Bin Tengku Mokhtar |
| Address | Kuala Nerus, Terengganu |
| Age | 36 years old |
| Status | Married |
| Race | Malay |
| Email | tengkuhanismokhtar@gmail.com |
| Website | https://tengkuhanis.netlify.app/ |

## 2 ACADEMIC PROFILES

| | |
|---|---|
| Google Scholar | Tengku Muhammad Hanis (h-index: 7, citations: 130) |
| Scopus | Tengku Muhammad Hanis (h-index: 6, citations: 84) |
| Web of Science | Tengku Muhammad Hanis (h-index: 5, citations: 66) |
| ResearchGate | Tengku Muhammad Hanis (h-index: 6, citations: 118) |

## 3 RESEARCH INTEREST

- Population-based study, predictive analytic study
- Medical statistics – survival analysis, Poisson regression, systematic review, meta-analysis
- Machine learning and deep learning
- Text analysis, bibliometrics and scientometrics
- The use of R and Python in health and medical research

## 4 EMPLOYMENTS

Aug 2023 – Present — Founder and lead academic trainer – Jom Research, Malaysia

- Develops modules and materials for workshops
- Conducts workshops virtually

- Manages preparations for incoming workshops including poster design, workshop promotion, and administration tasks

Nov 2019 – Feb 2023 Graduate research assistant – Universiti Sains Malaysia, Kelantan

- Project financial management
- Project documentation
- Data collection and data cleaning
- Data analysis and publication

June 2017 – Oct 2021 Online map quality analyst – Lionbridge, United States

- Analysed data mainly from online maps and search results
- Corrected errors in maps and search results
- Performed market research on the list of places of interest in Malaysia

May 2016 – Aug 2017 Freelance writer – MIMS Pte Ltd, Singapore

- Researched medical-related topics
- Generated ideas for new content
- Prepared well-structured draft articles

March 2017 – May 2017 Hostel fellow – Universiti Sultan Zainal Abidin, Terengganu

- Managed student activities in the university hostel
- Maintained good discipline and adherence to the university hostel's rules among the students
- Managed student's concerns and issues related to the university hostel

## 5 EDUCATIONS

Feb 2020 – May 2024 PhD (Public Health Epidemiology), Universiti Sains Malaysia

Thesis: Prediction of breast cancer diagnosis using machine learning in Malaysian women

Sept 2017 – July 2019 MSc (Medical Statistics), Universiti Sains Malaysia

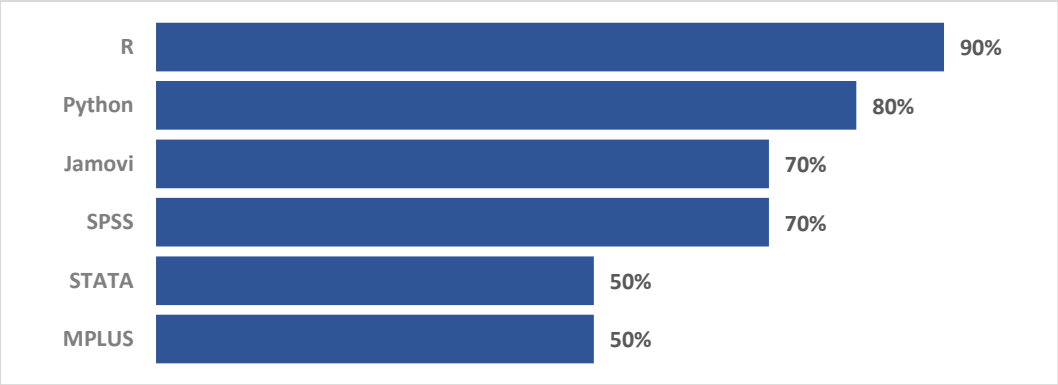
CGPA: 3.30

Thesis: Relative survival and its prognostic factors of breast cancer patients in Kelantan from 2007 to 2011

| | |
|---|---|
| | Subjects: Principle of epidemiology, clinical epidemiology, basic statistics, intermediate statistics, advanced statistics, critical appraisal and research methodology |
| Sept 2008 – June 2015 | M.B.B.Ch (Bachelor of Medicine and Surgery), Al-Azhar University<br>Result: Good/Jayyid (69.57%) |
| Jan 2006 – June 2007 | Tahfiz certificate, Darul Quran – JAKIM<br>Result: Good/Jayyid |
| Jan 2006 – June 2007 | Sijil Pelajaran Malaysia, SMKA Pahang<br>Result: 5 1A 4 2A 2 3B 1 5C |

## 6 SKILLS AND SOFTWARE

6.1 Statistical and programming software:




6.2 Sample size software:


## 7 PUBLICATIONS

7.1 Research articles:

7.1.1 First author:

1. Modelling excess mortality among breast cancer patients in the north-east region of peninsular Malaysia 2007-2011: a population-based study – BMC Public Health [https://doi.org/10.1186/s12889-019-8113-2]
2. Net survival differences of breast cancer between stages at diagnosis and age groups in the east coast region of West Malaysia: a retrospective cohort study – BMJ Open [https://doi.org/10.1136/bmjopen-2020-043642]

3. The top 100 most-cited publications on breast cancer and machine learning research: a bibliometric analysis – Current Medicinal Chemistry [https://doi.org/10.2174/0929867328666211108110731]
4. Factors influencing mammographic density in Asian women: a retrospective cohort study in the northeast region of peninsular Malaysia — Diagnostics [https://doi.org/10.3390/diagnostics12040860]
5. Diagnostic accuracy of machine learning models on mammography in breast cancer classification: a meta-analysis — Diagnostics [https://doi.org/10.3390/diagnostics12071643]
6. Over-the-counter breast cancer classification using machine learning and patient registration records — Diagnostics [https://doi.org/10.3390/diagnostics12112826]
7. Mapping breast cancer research in Malaysia: A scientometric analysis — Medicine & Health [https://doi.org/10.17576/MH.2022.1702.12]
8. Risk factors for COVID-19 mortality in Malaysia — Malaysian Journal of Medical Sciences [https://doi.org/10.21315/mjms2022.29.6.12]
9. Developing a supplementary diagnostic tool for breast cancer risk estimation using ensemble transfer learning — Diagnostics [https://doi.org/10.3390/diagnostics13101780]

7.1.2 Co-author:

1. Measuring time-varying effective reproduction numbers for COVID-19 and their relationship with movement control order in Malaysia — International Journal of Environmental Research and Public Health [https://doi.org/10.3390/ijerph18063273]
2. A global bibliometric analysis on antibiotic-resistant active pulmonary tuberculosis over the last 25 years (1996-2020) — Antibiotics [https://doi.org/10.3390/antibiotics11081012]
3. Bibliometric analysis of global research activity on premature mortality — Healthcare [https://doi.org/10.3390/healthcare10101941]
4. A bibliometric analysis of stroke caregiver research from 1989 to 2022 — International Journal of Environmental Research and Public Health [https://doi.org/10.3390/ijerph20054642]
5. The burden of premature mortality from cardiovascular diseases: a systematic review of years of life lost — PLOS ONE [https://doi.org/10.1371/journal.pone.0283879]
6. Premature mortality and years of potential life lost from cardiovascular diseases: protocol of a systematic review and meta-analysis — PLOS ONE [https://doi.org/10.1371/journal.pone.0284052]
7. The global estimate of premature cardiovascular mortality: a systematic review and meta-analysis of age-standardized mortality rate — BMC Public Health [https://doi.org/10.1186/s12889-023-16466-1]

8. Prognostic factors for premature cardiovascular disease mortality in Malaysia: A modelling approach using semi-parametric and parametric survival analysis with National Health and Morbidity Survey linked mortality data — BMC Public Health [https://doi.org/10.1186/s12889-024-20104-9]
9. Critical Thinking and Clinical Decision-Making Among Registered Nurses in Clinical Practice: A Systematic Review and Meta-Analysis — SSRN [https://dx.doi.org/10.2139/ssrn.4736717] [Preprint research article]

7.2 Books:

1. Data analysis in medicine and health using R — Chapman and Hall/CRC [https://doi.org/10.1201/9781003296775] (online version available at https://bookdown.org/drki_musa/dataanalysis/)
2. R Essentials: A Beginner's Guide to Data Analysis — Preprint (online version available at https://tengku-hanis.github.io/r_essential/)

## 8 WEB APPS

1. ShinyBC: breast cancer risk estimator [Available at: https://tengku-hanis.shinyapps.io/shinyBC/]

## 9 TALKS, WORKSHOPS AND PRESENTATIONS

9.1 Invited lecture sessions:

1. Systematic review topic for Research & Evidence-Based Medicine III (REBMI III) subject — University of Cyberjaya [January 27, 2022]

9.2 Webinars (as a speaker):

1. Machine learning with R — Jom research [December 14-16, 2024]
2. Basics of meta-analysis — Jom research [June 29, 2024]
3. Correlation and regression analysis using R — Jom research [March 11, 2024]
4. Correlation and regression analysis using SPSS & jamovi — Jom research [March 10, 2024]
5. Simple categorical analysis using R — Jom research [February 28, 2024]
6. Simple categorical analysis using SPSS & jamovi — Jom research [February 26, 2024]
7. Simple numerical analysis using R — Jom research [February 21, 2024]
8. Simple numerical analysis using SPSS & jamovi — Jom research [January 31, 2024]
9. How to do a meta-analysis — Jom research [November 23, 2023]
10. How to write a bibliometric paper— Jom research [November 7, 2023]
11. Bibliometric analysis — Biostatistics Consultancy Service, Fakulty of Medicine, Universiti Teknologi MARA [October 31, 2023]
12. Intro to R (for non-coders) — Jom research [October 21, 2023]
13. An introduction to SPSS & jamovi — Jom Research [October 06, 2023]

14. How to conduct a systematic review — Jom research [September 23, 2023]
15. How to write a scientific paper for beginners (for health sciences) — Jom research [September 2, 2023]
16. How to read a paper for beginners — Jom Research [August 17, 2023]
17. How to publish a paper for beginners and newbies (for health sciences) — Jom Research [August 5, 2023]
18. Basic of meta-analysis — Unit of biostatistics and research methodology, Universiti Sains Malaysia [August 18, 2021]
19. An introduction to meta-analysis using R — Universiti Sains Malaysia Epidemiological group [August 5, 2021]
20. An introduction to bibliometric analysis using R — Epidemiology and statistical modelling team, Universiti Sains Malaysia [September 24, 2020]

9.3 Conferences (as a speaker):

1. Exploring the COVID-19 research landscape in Malaysia: a bibliometric case study — R confeRence 2024 [October 27, 2024]
2. A guide to conducting systematic review on stroke — Malaysian Stroke Conference 2023 [July 27, 2023]
3. Exploring past literature: A bibliometric approach — R confeRence 2022 [November 27, 2022]
4. An introduction to relative survival analysis using R — R confeRence 2020 [November 22, 2020]

9.4 Workshops (as a speaker):

1. Bibliometric analysis and systematic review using R — Persatuan Kesihatan Awam Kelantan [August 15, 2024]
2. Machine learning in medical research — Unit of biostatistics and research methodology, Universiti Sains Malaysia [May 15, 2024]
3. Data analysis workflow using R — Persatuan Kesihatan Awam Kelantan [September 19, 2023]
4. Workshop on scoping review & bibliometric analysis — Department of Community Medicine, Universiti Sains Malaysia [October 20, 2022]
5. An introduction to meta-analysis in R (Pre-conference workshop) — R confeRence 2021 [November 6, 2021]
6. Systematic review and meta-analysis using RStudio — Department of Medical Microbiology and Parasitology, Universiti Sains Malaysia [October 18, 2021]

## 10 INVITED PEER REVIEWER

1. Cogent Engineering (1 paper):
    i. The use of machine learning for mental workload assessment - a bibliometric analysis
2. BMC Women's Health (2 papers):
    i. Exercise interventions on body composition and quality of life of overweigh/obese breast cancer survivors a meta-analysis
    ii. Factors influencing the prevalence of cervical cancer screening in Malaysia A nationwide survey
    iii. Predictors of the positive outcome of mammography in the National Breast Cancer Early Detection Program, Saudi Arabia
3. BMC Public Health (2 papers):
    i. Prevalence and sociodemographic predictors of high-risk vaginal Human Papillomavirus Infection: findings from a public cervical cancer screening registry
    ii. The hidden impact of alcohol on young victims: an analysis of alcohol-related police offences resulting in hospitalisation
4. Digital Health (1 paper):
    i. Firefly-SVM predictive model for breast cancer subgroup classification with clinicopathological parameters
5. Education in Medicine Journal (1 paper):
    i. A meta-analysis of e-learning interventions in teaching evidence-based practice

## 11 Postgraduate supervisions (unofficial)

**Mixed Mode:**

1. Dr Vivian Wong Chee Yien, Enhancing Breast Cancer Diagnosis with Artificial Intelligence: A Meta-Analysis of Accuracy, Efficiency, and Clinical Integration, MMed (Radiology), Universiti Sains Malaysia (2024-present) [co-supervisor]
2. Dr Iza Sharina Binti Ismail, A Comparison Between Nalbuphine and Fentanyl for Pain Management in Adult: Systematic Review and Meta-Analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2023-present) [co-supervisor]
3. Dr Mohamad Faez Bin Ibrahim, Efficacy Spectrum Tramadol and Nalbuphine As Shivering Control – A Systematic Review and Meta-Analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2023-present) [co-supervisor]

## 12 ONGOING RESEARCH PROJECTS

1. Prediction of disease progression nasopharyngeal cancer patients using a large language model (in collaboration with Dr Shen-Han Lee from Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia)

2. Prediction of diabetic cases in Malaysia using National Diabetic Registry database (in collaboration with Dr Khairul Hafidz Alkhair from the Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia)
3. Development of a web app for effect size calculation
4. Systematic review and meta-analysis of auricular acupressure (in collaboration with Dr Chen Xin Wee from the Faculty of Medicine, Universiti Teknology MARA)

## 13 AWARDS AND ACHIEVEMENTS

2023 Postgraduate publishing incentives award x 4 – a total amount of RM 3,250

2022 Postgraduate publishing incentives award x 3 – a total amount of RM 3,750

2021 Postgraduate publishing incentives award x 1 – a total amount of RM 1,500

## 14 OTHER RESEARCH ACTIVITIES

1. Book writing - Missing data: a practical guide on handling it with R (incomplete draft is available at https://tengku-hanis.github.io/missing_data/)
2. Committee member for R confeRence 2024
3. Situation analysis and modelling of COVID-19 cases in Malaysia – Part of epidemiology and statistical modelling team, Universiti Sains Malaysia
4. Actively writing a non-formal academic blog at https://tengkuhanis.netlify.app/post/

## 14 REFERENCES

**Reference 1:**

Name: Prof Dr Kamarul Imran Musa

Position: Professor at the Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia

Email: drkamarul@usm.my

Relationship: Main supervisor (PhD study)

**Reference 2:**

Name: Prof Dr Rosni Binti Abdullah

Position: Professor at the School of Computer Sciences, Universiti Sains Malaysia

Email: rosni@usm.my

Relationship: Co-supervisor (PhD study)

**Reference 3:**

Name: Dr Wan Nor Arifin Bin Wan Mansor

Position: Senior lecturer at the Biostatistics and Research Methodology Unit, School of Medical Sciences, Universiti Sains Malaysia

Email: wnarifin@usm.my

Relationship: Lecturer (MSc study)