



DAFTAR PUSTAKA

- Agresti, A. (2002), *Categorical Data Analysis*, A John Wiley and Sons, Inc., Publication.
- Allen, L. J. (2008), ‘An introduction to stochastic epidemic models’, *Lecture Notes in Mathematics* **1945**(3), 81–130.
- Allen, L. J. (2017), ‘A primer on stochastic epidemic models: Formulation, numerical simulation, and analysis’, *Infectious Disease Modelling* **2**(2), 1–15.
- Allen, L. J. dan Burgin, A. M. (2000), ‘Comparison of deterministic and stochastic SIS and SIR models in discrete time’, *Mathematical Biosciences* **163**(1), 1–33.
- Anderson, T. W. dan Goodman, L. A. (1957), ‘Statistical inference about Markov chains’, *The Annals of Mathematical Statistic* **28**(03), pp. 89–110.
- Andersson, H. dan Britton, T. (2000), *Stochastic Epidemic Models and Their Statistical Analysis*, Springer, New York.
- Asanjarani, A., Liquet, B. dan Nazarathy, Y. (2021), ‘Estimation of semi-Markov multi-state models: A comparison of the sojourn times and transition intensities approaches’, *International Journal of Biostatistics* pp. 1–20.
- Barbu, V. S., Bérard, C., Cellier, D., Sautreuil, M. dan Vergne, N. (2018), ‘SMM: An R package for estimation and simulation of discrete-time semi-Markov models’, *R Journal* **10**(2), 226–247.
- Bartholomew, D. J. (1971), ‘The Statistical Approach to Manpower Planning’, *The Statistician* **20**(1), 3.
- Bickenbach, F. dan Bode, E. (2001), ‘Markov or Not Markov – This Should Be a Question’, *Kiel Institute of World Economics* **1**(1086), 1–26.
- Breban, R., Vardavas, R. dan Blower, S. (2007), ‘Theory versus data: How to calculate R₀?’, *PLoS ONE* **2**(3), e282.



Catak, M. dan Duran, N. (2020), ‘Nonlinear Markov chain modelling of the novel coronavirus (Covid-19) pandemic’, *medRxiv*.

URL: <https://www.medrxiv.org/content/10.1101/2020.04.21.20073668v1>

Cohen, T. dan Reza, Y. (2011), ‘Generalized Markov Models of Infectious Disease Spread: A Novel Framework for Developing Dynamic Health Policies’, *European Journal of Operational Research* **215**(3), 679–687.

Cole, S. R., Chu, H. dan Greenland, S. (2014), ‘Maximum likelihood, profile likelihood, and penalized likelihood: A primer’, *American Journal of Epidemiology* **179**(2), 252–260.

Commenges, D. (1999), ‘Multi-state models in epidemiology’, *Lifetime Data Analysis* **5**(4), 315–327.

Commenges, D. (2002), ‘Inference for multi-state models from interval-censored data’, *Statistical Methods in Medical Research* **11**(2), 167–182.

Commenges, D., Letenneur, L., Joly, P., Alioum, A. dan Dartigues, J. F. (1998), ‘Modelling age-specific risk: Application to dementia’, *Statistics in Medicine* **17**(17), 1973–1988.

Dadlani, A., Afolabi, R. O., Jung, H., Sohraby, K. dan Kim, K. (2013), ‘Deterministic models in epidemiology: From modeling to implementation’, *arXiv*.

URL: <https://arxiv.org/abs/2004.04675>

Dessie, Z. G. (2014), ‘Modeling of HIV/AIDS dynamic evolution using non-homogeneous semi-Markov process’, *SpringerPlus* **3**(537), 1–9.

Eckley, I. A., Fearnhead, P. dan Killick, R. (2011), ‘Analysis of changepoint models’, *Bayesian Time Series Models* **9780521196**(January 2011), 205–224.

Foucher, Y., Mathieu, E., Saint-Pierre, P., Durand, J. F. dan Daurès, J. P. (2005), ‘A semi-markov model based on generalized Weibull distribution with an illustration for HIV disease’, *Biometrical Journal* **47**(6), 1–9.



- Gentleman, R. C., Lawless, J. F., Lindsey, J. C. dan Yan, P. (1994), 'Multi-state Markov models for analysing incomplete disease history data with illustrations for hiv disease', *Statistics in Medicine* **13**(8), 805–821.
- Guven, O., Eftekhar, A., Hoshyar, R., Frattini, G., Kindt, W. dan Constandinou, T. G. (2014), 'Realtime ECG baseline removal: An isoelectric point estimation approach', *IEEE 2014 Biomedical Circuits and Systems Conference, BioCAS 2014 - Proceedings* pp. 29–32.
- Haberman, S. dan Pitacco, E. (1999), *Actuarial Models for Disability Insurance*, CRC Press Taylor and Francis Group, London, New York.
- Hinkley, D. V. (1970), 'Inference about the change-point in a sequence of random variables', *Biometrika* **57**(1), 1–17.
- Hougaard, P. (1999), 'Multi-state models: A review', *Lifetime Data Analysis* **5**(3), 239–264.
- Hsieh, H. J., Chen, T. H. H. dan Chang, S. H. (2002), 'Assessing chronic disease progression using non-homogeneous exponential regression Markov models: An illustration using a selective breast cancer screening in Taiwan', *Statistics in Medicine* **21**(22), 3369–3382.
- Hsieh, Y.-H. (2009), Richards Model: A Simple Procedure for Real-time Prediction of Outbreak Severity, in Z. Ma, Y. Zhou dan J. Wu, eds, 'Modeling and Dynamics of Infectious Diseases', series in edn, World Scientific, chapter 9, pp. 216–236.
- Hsieh, Y. H. (2010), 'Pandemic influenza A (H1N1) during winter influenza season in the southern hemisphere', *Influenza and other Respiratory Viruses* **4**(4), 187–197.
- Hsieh, Y. H. dan Chen, C. W. (2009), 'Turning points, reproduction number, and impact of climatological events for multi-wave dengue outbreaks', *Tropical Medicine and International Health* **14**(6), 628–638.



Hsieh, Y.-H. dan Cheng, Y.-S. (2006), ‘Real-time Forecast of Multiphase Outbreak’, *Emerging Infectious Diseases* **12**(1), 122–127.

Hubbard, R. A. dan Zhou, X. H. (2011), ‘A comparison of non-homogeneous markov regression models with application to Alzheimer’s disease progression’, *Journal of Applied Statistics* **38**(10), 2313–2326.

Huppert, A. dan Katriel, G. (2013), ‘Mathematical modelling and prediction in infectious disease epidemiology’, *Clinical Microbiology and Infection* **19**(11), 999–1005.

Ibe, O. C. (2009), *Markov Processes for Stochastic Modeling*, Elsevier Academic Press, United States of America.

Ige, O. (2020), Markov Chain Epidemic Models and Parameter Estimation, PhD thesis, Marshall University.

Jackson, C. (2007), ‘Multi-state modelling with R: the msm package’, *Cambridge, UK* pp. 1–53.

James, N. A. dan Matteson, D. S. (2014), ‘ecp: An R package for nonparametric multiple change point analysis of multivariate data’, *Journal of Statistical Software* **62**(7), 1–25.

Janssen, J. dan Manca, R. (2001), ‘Numerical solution of non-homogeneous semi-Markov processes in transient case*’, *Methodology And Computing In Applied Probability* **3**(3), 271–293.

Jones, B. L. (1994), ‘Actuarial calculations using a Markov model’, *Transactions of Society of Actuaries* **46**, 227–250.

Keiding, N. (1991), ‘Age-specific incidence and prevalence: A statistical perspective’, *Journal of the Royal Statistical Society Series A* **154**(3), 371–412.

Kermack, W. O. dan McKendrick, A. G. (1927), ‘A contribution to the mathematical theory of epidemics’, *Proceedings of the Royal Society of London. Series A* **115**(772), 700–721.



- Killick, R. dan Eckley, I. A. (2014), ‘changepoint: An R Package for Changepoint Analysis’, *Journal of Statistical Software* **58**(3), 1–19.
- Killick, R., Eckley, I. dan Jonathan, P. (2011), ‘Efficient Detection Of Multiple Changepoints Within An Oceanographic Time Series’, *1*(1), 4137–4142.
- Killick, R., Fearnhead, P. dan Eckley, I. A. (2012), ‘Optimal detection of changepoints with a linear computational cost’, *Journal of the American Statistical Association* **107**(500), 1590–1598.
- Klein, J. P. dan Moeschberger, M. L. (2003), *Survival Analysis Techniques for Censored and Truncated Data*, Springer-Verlag, United States of America.
- Kryscio, R. J., Schmitt, F. A., Salazar, J. C., Mendiondo, M. S. dan Markesberry, W. R. (2006), ‘Risk factors for transitions from normal to mild cognitive impairment and dementia’, *Neurology* **66**(6), 828–832.
- Ma, L., Grant, A. J. dan Sofronov, G. (2020), ‘Multiple change point detection and validation in autoregressive time series data’.
- Maleki, M., Mahmoudi, M. R., Wraith, D. dan Pho, K. H. (2020), ‘Time series modelling to forecast the confirmed and recovered cases of COVID-19’, *Travel Medicine and Infectious Disease* **37**, 101742.
- Meier-Hirmer, C. dan Schumacher, M. (2013), ‘Multi-state model for studying an intermediate event using time-dependent covariates: Application to breast cancer’, *BMC Medical Research Methodology* **13**(80), 1–10.
- Meira-Machado, L. F., de Uña-Álvarez, J., Cadarso-Suárez, C. dan Andersen, P. K. (2009), ‘Multi-state models for the analysis of time-to-event data’, *Statistical Methods in Medical Research* **18**(2), 195–222.
- Mengesha, S. K., Gebremedhn, G. A., Ferede, T. dan Atsmegiorgis, C. (2018), ‘Application of multi-state semi-Markov models on HIV/AIDS disease progression’, *i-manager’s Journal on Mathematics* **7**(3), 30–41.



Nakagawa, T. dan Yoda, H. (1977), ‘Relationships Among Distributions’, *IEEE Transactions on Reliability* **R-26**(5), 352–353.

Nishiura, H. (2011), ‘Real-time forecasting of an epidemic using a discrete time stochastic model: A case study of pandemic influenza (H1N1-2009)’, *BioMedical Engineering Online* **10**(15), 1–16.

Nishiura, H. dan Chowell, G. (2009), The effective reproduction number as a prelude to statistical estimation of time-dependent epidemic trends, in ‘Mathematical and Statistical Estimation Approaches in Epidemiology’, PubMed Central, pp. 103–121.

Orowe, I., Weke, P., Ottieno, J. dan Onyango, N. (2015), ‘Multistate modelling vertical transmission and determination of R₀ using transition intensities’, *Applied Mathematical Sciences* **9**(79), 3941–3956.

Raju, A. dan Rajathi, M. (2020), ‘A Markov Model for Prediction of Corona Virus COVID-19 in India- A Statistical Study’, *Journal of Xidian University* **14**(4), 1422–1426.

Renard, P., Alcolea, A. dan Ginsbourger, D. (2013), Stochastic versus Deterministic Approaches, in ‘In Environmental Modelling: Finding Simplicity in Complexity: Second Edition’, John Wiley and Sons, pp. 133–149.

Richards, F. J. (1959), ‘A flexible growth function for empirical use’, *Journal of Experimental Botany* **10**(2), 290–301.

Roosa, K., Lee, Y., Luo, R., Kirpich, A., Rothenberg, R., Hyman, J. M., Yan, P. dan Chowell, G. (2020), ‘Short-term Forecasts of the COVID-19 Epidemic in Guangdong and Zhejiang, China: February 13–23, 2020’, *Journal of Clinical Medicine* **9**(2), 596–604.

Ross, S. M. (2007), *Introduction to Probability Models*, Elsevier Academic Press, United States of America.



Sato, K. (2019), ‘Basic reproduction number of SEIRS model on regular lattice’, *Mathematical Biosciences and Engineering* **16**(6), 6708–6727.

Scott, A. A. J. dan Knott, M. (1974), ‘A Cluster Analysis Method for Grouping Means in the Analysis of Variance’, *Biometrics* **30**(3), 507–512.

Spedicato, G. A. dan Signorelli, M. (2014), ‘The r package ”markovchain”: Easily handling discrete markov chains in r’, *Cran*.

Stenberg, F., Manca, R. dan Silvestrov, D. (2006), ‘Semi-Markov Reward Models for Disability Insurance’, *Theory of Stochastic Processes* **12(28)**(3-4), 239–254.

Tang, J. dan Gupta, A. K. (1987), ‘On Testing Homogeneity of Variances for Gaussian Models’, *Journal of Statistical Computation and Simulation* **27**(2), 155–173.

van den Hout, A. dan Matthews, F. E. (2008), ‘Multi-state analysis of cognitive ability data: A piecewise-constant model and a Weibull model’, *Statistics in medicine* **27**(26), 5440–5455.

Verbeken, B. dan Guerry, M. A. (2021), ‘Discrete time hybrid semi-markov models in manpower planning’, *Mathematics* **9**(14).

Wang, X., Liu, S. dan Huang, Y. (2016), ‘A Study on the Rapid Parameter Estimation and the Grey Prediction in Richards Model’, *Journal of Systems Science and Information* **4**(3), 223–234.

Watkins, R. E., Eagleson, S., Veenendaal, B., Wright, G. dan Plant, A. J. (2009), ‘Disease surveillance using a hidden Markov model’, *BMC Medical Informatics and Decision Making* **9**(39), 1–12.

Worldometer (2022), ‘Coronavirus update (Live): cases and deaths from COVID19 virus pandemic’.

URL: <https://www.worldometers.info/coronavirus/>

Yang, H. M. (2014), ‘The basic reproduction number obtained from Jacobian and next generation matrices - A case study of dengue transmission modelling’, *Bio-Systems* **126**, 52–75.



Zhang, L., Lim, C. Y., Maiti, T., Li, Y., Choi, J., Bozoki, A. dan Zhu, D. C. (2019), 'Analysis of conversion of Alzheimer's disease using a multi-state Markov model', *Statistical Methods in Medical Research* **28**(9), 2801–2819.

Zuhairoh, F. dan Rosadi, D. (2020), 'Real-time forecasting of the COVID-19 epidemic using the Richards model in South Sulawesi, Indonesia', *Indonesian Journal of Science and Technology* **5**(3), 456–462.

Zuhairoh, F. dan Rosadi, D. (2022a), 'Data-driven Analysis and Prediction of COVID-19 Infection in Southeast Asia using A Phenomenological Model', *Pakistan Journal of Statistics and Operation Research* **18**(1), 59–69.

Zuhairoh, F. dan Rosadi, D. (2022b), 'Real-time prediction for multi-wave COVID-19 outbreaks', *Communications for Statistical Applications and Methods* **29**(5), 499–512.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2021), 'Determination of Basic Reproduction Numbers using Transition Intensities Multi-state SIRD Model for COVID-19 in Indonesia', *Journal of Physics: Conference Series* **1821**(1), 012050.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2022), 'Multi-state Discrete-time Markov Chain SVIRS Model on the Spread of COVID-19', *Engineering Letters* **30**(2), 598–608.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2023a), 'Multi-state SIRD Model with Semi-Markov Assumptions on the Spread of COVID-19 Disease Based on Sojourn Time Distribution', *AIP Conference Proceedings (Accepted) ICMSE2021*.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2023b), 'Multi-state SVIRD Model with Continuous-time Markov Chain Assumption on the Spread of Infectious Diseases', *Austrian Journal of Statistics (Accepted)*.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2023c), 'Prediction of Multi-wave Epidemic Cases in Saudi Arabia with Changepoint Detection on Richards curve



model and Multi-state SIRD Model', *Advances in Science, Technology & Innovation (Accepted)*. Springer, Cham. **ICES2023**.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2023d), 'Prediction of the Spread of Infectious Diseases with the Multi-state SIR Model and Richards Curve Model in Multi-wave Epidemic Cases', *AIP Conference Proceedings (Accepted) ICo-MCoS2022*.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2023e), 'Real-time Changepoint Detection of Epidemic Waves with Applications on the Spread of COVID-19 Disease', *AIP Conference Proceedings (Accepted) IICMA2021*.

Zuhairoh, F., Rosadi, D. dan Effendie, A. R. (2023f), 'SVIRD Epidemic Model with Discrete-time Hybrid Semi-Markov', *Communications in Mathematical Biology and Neuroscience* **29**, Article ID 29.