

INDEX

- autocorrelation function, 75–76, 87, 91
- ACF *See* autocorrelation function
- attention-deficit hyperactivity disorder, 53, 56, 63, 65–66
- ADHD *See* attention-deficit hyperactivity disorder
- akaike information criterion, 35, 77, 88, 93
- AIC *See* akaike information criterion
- air pollution, 5, 69–73, 78, 83–84
- artificial neural network, 5, 72–73
- ANN *See* artificial neural network
- aplastic anemia, 32, 34, 42, 47
- autoregressive integrated moving average, 3, 5, 8, 72–73, 86, 91
- ARIMA *See* autoregressive integrated moving average
- autoregressive moving average, 89, 91, 93–97
- ARMA *See* autoregressive moving average
- augmented dickey-fuller, 87
- autocorrelation, 87, 93, 127
- autoregressive, 3, 74, 86–87, 93
- backward stepwise regression, 126
- bayesian, 3–5, 17, 19–21, 26, 35, 39–40, 52–55, 58, 63–64, 66
- information criterion, 35
- BIC *See* bayesian information criterion
- box-cox, 87
- cancer, 4–5, 17–18, 20, 23, 26, 28, 31, 70, 132, 134–141
- chi-square test, 105, 114, 151–52
- covariate, 4, 16, 20, 25–28, 35, 38, 43–48, 55, 133, 146
- coronavirus disease 2019, 4–5, 82–86, 97, 163
- COVID-19 *See* coronavirus disease 2019

- cox regression, 16, 33–35, 46–47, 133
- crude oil, 162–166, 175–179
- exponential smoothing, 86, 88, 90, 94
- fagestrom test, 110
- fuzzy time series, 3, 162, 164–65
- forecasting, 7, 70, 73–74, 77, 84, 86, 90, 95–96, 98, 162–65, 178–79
- gelman-rubin, 61–62
- generalised linear model, 88
- goodness-of-fit, 108, 114, 153
- heteroscedasticity, 124, 128
- hybrid model, 74, 88, 91–92, 98–99
- jenkin-box, 86, 88
- Kaplan-Meier, 3–4, 15–16, 23, 133–34
- logistic regression, 3, 5, 56, 58–59, 104, 106–07, 115, 147–49, 153
- log-rank test, 24, 133–34, 136, 138
- mean absolute error, 78, 95, 126
- MAE *See* mean absolute error
- mean absolute percentage error, 78, 88, 95, 174, 178
- MAPE *See* mean absolute percentage error
- maximum likelihood estimation, 20, 23
- markov chain monte carlo, 17, 19–21, 33, 39, 58, 61, 63
- MCMC *See* markov chain monte carlo
- moving average, 3, 74, 86–87, 93
- mean square error, 88, 93, 174
- MSE *See* mean square error
- multicollinearity, 124, 127, 151, 155
- multiple linear regression, 3, 124–25, 149, 153
- multivariate, 104–05, 107–08, 114–15, 135, 142, 158
- odds ratio, 59
- p-value, 22, 24, 93–94, 111–12, 125, 135, 137, 139, 152, 156, 159
- root mean square error, 78, 88, 95, 174, 178
- RMSE *See* root mean square error

- seasonal ARIMA, 3, 75–76, 78–81
- SARIMA *See* seasonal ARIMA
- seasonal regression, 75–76, 80–81
- single exponential smoothing, 88, 92
- statistical modelling, 3–4, 6, 9, 73, 86
- stepwise, 106, 124, 126–27
- survival analysis, 4, 15–17, 20, 33–35, 50, 133
- time series, 3, 5, 7, 72, 74, 87, 91, 97, 120, 162–65, 178–79
- trace plot, 61–62
- t-test, 105, 152–53
- univariate, 23, 102–03, 105, 111, 113, 134, 158–59
- virus, 17, 34, 82–85, 97
- weibull, 3–4, 16, 18, 20, 23