

رفرنس‌های نوشته شده شامل مقاله، کتاب و سایت‌های آنلاین است که به فرمت IEEE نوشته شده است (نوع رفرنس با توجه به شرایط تغییر می‌یابد).

به‌طور مثال قسمتی از متن در ادامه نوشته شده است:

در سال ۲۰۱۹ بیماری کرونا به‌عنوان یک تهدید برای امنیت سلامت جهان ظاهر شد [۱] و به‌سرعت در سراسر جهان شیوع پیدا کرد. بنابراین، جامعه به اقدامات فوری و هدفمند در جهت درمان و کنترل این بیماری نیاز دارد [۲]. از علائم شایع این بیماری می‌توان به تب، خستگی، سرفه خشک، اسهال، تنگی نفس، استفراغ و... اشاره کرد. باین‌حال، علائم بیماری به‌طور گسترده‌ای در زمان تغییر کرده است [۳].

لازم به ذکر است که متن، به دلایل حفظ حقوق نویسنده به طور کامل نمایش داده نشده است.

- [1] A. K. Das, S. Mishra, and S. S. Gopalan, "Predicting CoVID-19 community mortality risk using machine learning and development of an online prognostic tool," *PeerJ*, vol. 8, p. e10083, 2020.
- [2] R. Sami *et al.*, "A one-year hospital-based prospective COVID-19 open-cohort in the Eastern Mediterranean region: The Khorshid COVID Cohort (KCC) study," *PloS one*, vol. 15, no. 11, p. e0241537, 2020.
- [3] D. Bertsimas *et al.*, "COVID-19 mortality risk assessment: An international multi-center study," *PloS one*, vol. 15, no. 12, p. e0243262, 2020.
- [4] H. R. Marateb *et al.*, "Absolute mortality risk assessment of COVID-19 patients: the Khorshid COVID Cohort (KCC) study," *BMC medical research methodology*, vol. 21, pp. 1-9, 2021.
- [5] S. Wongvibulsin *et al.*, "Development of severe COVID-19 adaptive risk predictor (SCARP), a calculator to predict severe disease or death in hospitalized patients with COVID-19," *Annals of internal medicine*, 2021.
- [6] P. Garg and D. Joshi, "A region-specific clustering approach to investigate risk-factors in mortality rate during COVID-19: comprehensive statistical analysis from 208 countries," *Journal of medical engineering & technology*, vol. 45, no. 4, pp. 284-289, 2021.
- [7] V. Bajaj and G. Sinha, *Computer-aided Design and Diagnosis Methods for Biomedical Applications*. CRC Press, 2021.
- [8] (2021/04/11) "wirdmete", Available: <https://www.worldometers.info/coronavirus/country/%C4%B1ran#graph-deaths-daily>
- [9] M. Wolkewitz *et al.*, "Statistical analysis of clinical COVID-19 data: A Concise overview of lessons learned, common errors and how to avoid them," *Clinical epidemiology*, vol. 12, p. 925, 2020.
- [10] M. Wolkewitz and L. Puljak, "Methodological challenges of analysing COVID-19 data during the pandemic," ed: BioMed Central, 2020.
- [11] M. Rubio-Rivas *et al.*, "Predicting clinical outcome with phenotypic clusters in COVID-19 pneumonia: an analysis of 12,066 hospitalized patients from the Spanish registry SEMI-COVID-19," *Journal of clinical medicine*, vol. 9, no. 11, p. 3488, 2020.
- [12] S. Rieg *et al.*, "COVID-19 in-hospital mortality and mode of death in a dynamic and non-restricted tertiary care model in Germany," *PloS one*, vol. 15, no. 11, p. e0242127, 2020.

- [13] A. A. El-Solh, Y. Lawson, M. Carter, D. A. El-Solh, and K. A. Mergenhausen, "Comparison of in-hospital mortality risk prediction models from COVID-19," *PloS one*, vol. 15, no. 12, p. e0244629, 2020.
- [14] V. Sounderajah *et al.*, "Developing specific reporting guidelines for diagnostic accuracy studies assessing AI interventions: The STARD-AI Steering Group," *Nature medicine*, vol. 26, no. 6, pp. 807-808, 2020.
- [15] F. E. Shamout *et al.*, "An artificial intelligence system for predicting the deterioration of COVID-19 patients in the emergency department," *NPJ digital medicine*, vol. 4, no. 1, pp. 1-11, 2021.
- [16] M. E. Chowdhury *et al.*, "An early warning tool for predicting mortality risk of COVID-19 patients using machine learning," *Cognitive Computation*, pp. 1-16, 2021.
- [17] S. Kar *et al.*, "Multivariable mortality risk prediction using machine learning for COVID-19 patients at admission (AICOVID)," *Scientific reports*, vol. 11, no. 1, pp. 1-11, 2021.
- [18] L. Yan *et al.*, "An interpretable mortality prediction model for COVID-19 patients," *Nature machine intelligence*, vol. 2, no. 5, pp. 283-288, 2020.
- [19] I. Poguntke, M. Schumacher, J. Beyersmann, and M. Wolkewitz, "Simulation shows undesirable results for competing risks analysis with time-dependent covariates for clinical outcomes," *BMC medical research methodology*, vol. 18, no. 1, pp. 1-10, 2018.
- [20] F. Mejía *et al.*, "Oxygen saturation as a predictor of mortality in hospitalized adult patients with COVID-19 in a public hospital in Lima, Peru," *PloS one*, vol. 15, no. 12, p. e0244171, 2020.
- [21] C. M. Petrilli *et al.*, "Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study," *Bmj*, vol. 369, 2020.
- [22] R.-H. Du *et al.*, "Predictors of mortality for patients with COVID-19 pneumonia caused by SARS-CoV-2: a prospective cohort study," *European Respiratory Journal*, vol. 55, no. 5, 2020.
- [23] D. Acharya, K. Lee, D. S. Lee, Y. S. Lee, and S.-S. Moon, "Mortality rate and predictors of mortality in hospitalized COVID-19 patients with diabetes," in *Healthcare*, 2020, vol. 8, no. 3, p. 338: Multidisciplinary Digital Publishing Institute.
- [24] E. Heras *et al.*, "COVID-19 mortality risk factors in older people in a long-term care center," *European geriatric medicine*, vol. 12, no. 3, pp. 601-607, 2021.
- [25] Y. Varol *et al.*, "The impact of charlson comorbidity index on mortality from SARS-CoV-2 virus infection and A novel COVID-19 mortality index: CoLACD," *International journal of clinical practice*, vol. 75, no. 4, p. e13858, 2021.
- [26] E. Rodilla *et al.*, "Association of hypertension with all-cause mortality among hospitalized patients with COVID-19," *Journal of clinical medicine*, vol. 9, no. 10, p. 3136, 2020.
- [27] T. B. Alakus and I. Turkoglu, "Comparison of deep learning approaches to predict COVID-19 infection," *Chaos, Solitons & Fractals*, vol. 140, p. 110120, 2020.
- [28] A. Oulhaj *et al.*, "The competing risk between in-hospital mortality and recovery: A pitfall in COVID-19 survival analysis research," *MedRxiv*, 2020.
- [29] J. Fox and S. Weisberg, "Cox proportional-hazards regression for survival data," *An R and S-PLUS companion to applied regression*, vol. 2002, 2002.

- [30] J. H. Friedman, "Stochastic gradient boosting," *Computational statistics & data analysis*, vol. 38, no. 4, pp. 367-378, 2002.
- [31] A. Lins, M. Muniz, and C. J. Bastos-Filho, "Comparing machine learning techniques for dementia diagnosis," in *2018 IEEE Latin American Conference on Computational Intelligence (LA-CCI)*, 2018, pp. 1-6: IEEE.
- [32] N. Casillas, A. Torres, M. Moret, A. Gómez, J. Rius-Peris, and J. Mateo, "Mortality predictors in patients with COVID-19 pneumonia: a machine learning approach using eXtreme Gradient Boosting model," *Internal and Emergency Medicine*, vol. 17, no. 7, pp. 1929-1939, 2022.
- [33] A. Ramón, A. M. Torres, J. Milara, J. Cascón, P. Blasco, and J. Mateo, "eXtreme Gradient Boosting-based method to classify patients with COVID-19," *Journal of Investigative Medicine*, vol. 70, no. 7, pp. 1472-1480, 2022.
- [34] M. Pourhomayoun and M. Shakibi, "Predicting mortality risk in patients with COVID-19 using machine learning to help medical decision-making," *Smart Health*, vol. 20, p. 100178, 2021.
- [35] S. B. Imandoust and M. Bolandraftar, "Application of k-nearest neighbor (knn) approach for predicting economic events: Theoretical background," *International journal of engineering research and applications*, vol. 3, no. 5, pp. 605-610, 2013.
- [36] J. Beyersmann and M. Schumacher, "Time-dependent covariates in the proportional subdistribution hazards model for competing risks," *Biostatistics*, vol. 9, no. 4, pp. 765-776, 2008.
- [37] J. P. Fine and R. J. Gray, "A proportional hazards model for the subdistribution of a competing risk," *Journal of the American statistical association*, vol. 94, no. 446, pp. 496-509, 1999.
- [38] M. Pourhomayoun and M. Shakibi, "Predicting mortality risk in patients with COVID-19 using artificial intelligence to help medical decision-making," *MedRxiv*, 2020.
- [39] W. Liang *et al.*, "Development and validation of a clinical risk score to predict the occurrence of critical illness in hospitalized patients with COVID-19," *JAMA internal medicine*, vol. 180, no. 8, pp. 1081-1089, 2020.
- [40] B. Ferdinandy *et al.*, "Challenges of machine learning model validation using correlated behaviour data: evaluation of cross-validation strategies and accuracy measures," *PloS one*, vol. 15, no. 7, p. e0236092, 2020.
- [41] J. A. Sidey-Gibbons and C. J. Sidey-Gibbons, "Machine learning in medicine: a practical introduction," *BMC medical research methodology*, vol. 19, no. 1, pp. 1-18, 2019.
- [42] K. Hajian-Tilaki, "Receiver operating characteristic (ROC) curve analysis for medical diagnostic test evaluation," *Caspian journal of internal medicine*, vol. 4, no. 2, p. 627, 2013.
- [43] Y. Huang, W. Li, F. Macheret, R. A. Gabriel, and L. Ohno-Machado, "A tutorial on calibration measurements and calibration models for clinical prediction models," *Journal of the American Medical Informatics Association*, vol. 27, no. 4, pp. 621-633, 2020.
- [44] D. G. Altman and M. J. Gardner, "Statistics in medicine: calculating confidence intervals for regression and correlation," *British medical journal (Clinical research ed.)*, vol. 296, no. 6631, p. 1238, 1988.

- [45] (12/03/2022) "confidence interval 95%" , Available: <https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.r-bloggers.com%2F2021%2F04%2Fcalculating-confidence-interval-in-r%2F&psig=AOvVaw0BQkDVtIWRBtermIrgisne&ust=1670408147154000&source=images&cd=vfe&ved=0CBAQjRxqFwoTCKjSvrbh5PsCFQAAAAAdAAAAABBC>, " 2022.
- [46] D. Chicco and G. Jurman, "The advantages of the Matthews correlation coefficient (MCC) over F1 score and accuracy in binary classification evaluation," *BMC genomics*, vol. 21, no. 1, pp. 1-13, 2020.
- [47] J. Franco–Monsreal, A. May–Panti, L. E. del Socorro Serralta–Peraza, and M. S. Sánchez–Uluac, "Positive and negative likelihood ratios of two anthropometric indices (Waist/Height Index and Waist/Hip Index) in the diagnosis of pathological nutritional situations overweight and obesity," *South Florida Journal of Development*, vol. 2, no. 2, pp. 1319-1334, 2021.
- [48] J. M. Bland and D. G. Altman, "The odds ratio," *Bmj*, vol. 320, no. 7247, p. 1468, 2000.
- [49] J. Y. Hsu *et al.*, "Statistical methods for cohort studies of CKD: survival analysis in the setting of competing risks," *Clinical Journal of the American Society of Nephrology*, vol. 12, no. 7, pp. 1181-1189, 2017.
- [50] S. L. Spruance, J. E. Reid, M. Grace, and M. Samore, "Hazard ratio in clinical trials," *Antimicrobial agents and chemotherapy*, vol. 48, no. 8, pp. 2787-2792, 2004.
- [51] J. Stare and D. Maucort-Boulch, "Odds ratio, hazard ratio and relative risk," *Advances in Methodology and Statistics*, vol. 13, no. 1, pp. 59–67-59–67, 2016.
- [52] J. Xie and S. Coggeshall, "Prediction of transfers to tertiary care and hospital mortality: A gradient boosting decision tree approach," *Statistical Analysis and Data Mining: The ASA Data Science Journal*, vol. 3, no. 4, pp. 253-258, 2010.
- [53] N. V. Chawla, K. W. Bowyer, L. O. Hall, and W. P. Kegelmeyer, "SMOTE: synthetic minority over-sampling technique," *Journal of artificial intelligence research*, vol. 16, pp. 321-357, 2002.
- [54] Y. Shang *et al.*, "Scoring systems for predicting mortality for severe patients with COVID-19," *EClinicalMedicine*, vol. 24, p. 100426, 2020.
- [55] C. Yu *et al.*, "Clinical characteristics, associated factors, and predicting COVID-19 mortality risk: a retrospective study in Wuhan, China," *American journal of preventive medicine*, vol. 59, no. 2, pp. 168-175, 2020.
- [56] Z. Wang, B. Yang, Q. Li, L. Wen, and R. Zhang, "Clinical features of 69 cases with coronavirus disease 2019 in Wuhan, China," *Clinical infectious diseases*, vol. 71, no. 15, pp. 769-777, 2020.
- [57] S. Khatun, M. Mandi, P. Rajak, and S. Roy, "Interplay of ROS and behavioral pattern in fluoride exposed *Drosophila melanogaster*," *Chemosphere*, vol. 209, pp. 220-231, 2018.
- [58] M. Rubio-Rivas *et al.*, "Clusters of inflammation in COVID-19: descriptive analysis and prognosis on more than 15,000 patients from the Spanish SEMI-COVID-19 Registry," *Internal and emergency medicine*, vol. 17, no. 4, pp. 1115-1127, 2022.
- [59] J. Casas-Rojo *et al.*, "Clinical characteristics of patients hospitalized with COVID-19 in Spain: Results from the SEMI-COVID-19 Registry," *Revista Clínica Española (English Edition)*, vol. 220, no. 8, pp. 480-494, 2020.

- [60] K. H. Cho, S. W. Kim, J. W. Park, J. Y. Do, and S. H. Kang, "Effect of sex on clinical outcomes in patients with coronavirus disease: a population-based study," *Journal of clinical medicine*, vol. 10, no. 1, p. 38, 2020.
- [61] (12/03/2022) "RDocumentation-CSC: Cause-specific Cox proportional hazard regression" , Available: <https://www.rdocumentation.org/packages/riskRegression/versions/2022.09.13/topics/CSC>."
- [62] (12/03/2022) "RDocumentation- Model Predictions" , Available: <https://www.rdocumentation.org/packages/car/versions/3.1-1/topics/Predict>

Search all packages and functions," 2022-12-3 2022.

- [63] (12/03/2022) "RDocumentation-logistic regression model" Available: <https://www.rdocumentation.org/packages/rms/versions/6.3-0/topics/lrm>
- [64] I. Unal, "Defining an optimal cut-point value in ROC analysis: an alternative approach," *Computational and mathematical methods in medicine*, vol. 2017, 2017.
- [65] E. W. Steyerberg, *Clinical Prediction Models: A Practical Approach to Development, Validation, and Updating*. Springer International Publishing, 2019.
- [66] Å. Björck, "Least squares methods," *Handbook of numerical analysis*, vol. 1, pp. 465-652, 1990.
- [67] B. Van Calster, D. Nieboer, Y. Vergouwe, B. De Cock, M. J. Pencina, and E. W. Steyerberg, "A calibration hierarchy for risk models was defined: from utopia to empirical data," *Journal of clinical epidemiology*, vol. 74, pp. 167-176, 2016.
- [68] D. Chicco, M. J. Warrens, and G. Jurman, "The coefficient of determination R-squared is more informative than SMAPE, MAE, MAPE, MSE and RMSE in regression analysis evaluation," *PeerJ Computer Science*, vol. 7, p. e623, 2021.
- [69] K. G. Moons *et al.*, "Transparent Reporting of a multivariable prediction model for Individual Prognosis or Diagnosis (TRIPOD): explanation and elaboration," *Annals of internal medicine*, vol. 162, no. 1, pp. W1-W73, 2015.
- [70] S. G. Baker *et al.*, "How to interpret a small increase in AUC with an additional risk prediction marker: decision analysis comes through," *Statistics in medicine*, vol. 33, no. 22, pp. 3946-3959, 2014.
- [71] D. van Klaveren, M. Gönen, E. W. Steyerberg, and Y. Vergouwe, "A new concordance measure for risk prediction models in external validation settings," *Statistics in medicine*, vol. 35, no. 23, pp. 4136-4152, 2016.
- [72] J. Kennedy and R. Eberhart, "Particle swarm optimization," in *Proceedings of ICNN'95-international conference on neural networks*, 1995, vol. 4, pp. 1942-1948: IEEE.
- [73] H. R. Marateb and K. C. McGill, "Resolving superimposed MUAPs using particle swarm optimization," *IEEE Transactions on Biomedical Engineering*, vol. 56, no. 3, pp. 916-919, 2008.
- [74] M. S. Pepe, *The Statistical Evaluation of Medical Tests for Classification and Prediction*. Oxford University Press, 2004.
- [75] J. A. Hanley and B. J. McNeil, "The meaning and use of the area under a receiver operating characteristic (ROC) curve," *Radiology*, vol. 143, no. 1, pp. 29-36, 1982.

- [76] E. R. DeLong, D. M. DeLong, and D. L. Clarke-Pearson, "Comparing the areas under two or more correlated receiver operating characteristic curves: a nonparametric approach," *Biometrics*, pp. 837-845, 1988.
- [77] K. O. Hajian-Tilaki, J. A. Hanley, L. Joseph, and J.-P. Collet, "A comparison of parametric and nonparametric approaches to ROC analysis of quantitative diagnostic tests," *Medical Decision Making*, vol. 17, no. 1, pp. 94-102, 1997.
- [78] S. Yadav and S. Shukla, "Analysis of k-fold cross-validation over hold-out validation on colossal datasets for quality classification," in *2016 IEEE 6th International conference on advanced computing (IACC)*, 2016, pp. 78-83: IEEE.
- [79] (12/04/2022) "Holdout Validation" , Available: <https://vitalflux.com/hold-out-method-for-training-machine-learning-model/>