

7 REFERENCES

- Abdel-Aty, M. (2003). Analysis of driver injury severity levels at multiple locations using ordered probit models. *Journal of Safety Research*, 34(5), 597–603.
<https://doi.org/10.1016/j.jsr.2003.05.009>
- Abdel-Aty, M. A., & Radwan, A. E. (2000). Modeling traffic accident occurrence and involvement. *Accident Analysis & Prevention*, 32(5), 633–642.
[https://doi.org/10.1016/S0001-4575\(99\)00094-9](https://doi.org/10.1016/S0001-4575(99)00094-9)
- Abdulhafedh, A. (2017). Road Crash Prediction Models: Different Statistical Modeling Approaches. *Journal of Transportation Technologies*, 7(2), 190–205.
<https://doi.org/10.4236/JTTS.2017.72014>
- Agafonkin, V. (2016). *Clustering millions of points on a map with Supercluster | by Mapbox | maps for developers*. Mapbox Blog. <https://blog.mapbox.com/clustering-millions-of-points-on-a-map-with-supercluster-272046ec5c97>
- Agafonkin, V. (2020). *A Web Map from Scratch / Vladimir Agafonkin / Observable*.
<https://observablehq.com/@mourner/simple-web-map>
- Asalor, J. O. (1984). A general model of road traffic accidents. *Applied Mathematical Modelling*, 8(2), 133–138. [https://doi.org/10.1016/0307-904X\(84\)90066-0](https://doi.org/10.1016/0307-904X(84)90066-0)
- Assi, K., Rahman, S. M., Mansoor, U., & Ratrout, N. (2020). Predicting Crash Injury Severity with Machine Learning Algorithm Synergized with Clustering Technique: A Promising Protocol. *International Journal of Environmental Research and Public Health* 2020, Vol. 17, Page 5497, 17(15), 5497.
<https://doi.org/10.3390/IJERPH17155497>
- Bertrand, F. (2021). *SweetViz* (2.1.2). <https://github.com/fbdesignpro/sweetviz>
- Butler, H., Daly, M., Doyle, A., Gillies, S., Hagen, S., & Schaub, T. (2016). *The GeoJSON Format, RFC 7946*. <https://datatracker.ietf.org/doc/html/rfc7946>
- Chang, L. Y., & Wang, H. W. (2006). Analysis of traffic injury severity: An application of non-parametric classification tree techniques. *Accident Analysis & Prevention*, 38(5), 1019–1027. <https://doi.org/10.1016/J.AAP.2006.04.009>

- Devasurendra, K., Perera, L., & Bandara, S. (2016). An insight to motorized two and three wheel crashes in developing countries: A case study in Sri Lanka. *Journal of Transportation Safety & Security, Vol 9*, 204–215.
<https://doi.org/10.1080/19439962.2016.1236052>
- Dissanayake, S., & Amarasingha, N. (2012). Effects of Geometric Design Features on Truck Crashes on Limited-Access Highways. *Final Reports & Technical Briefs from Mid-America Transportation Center*.
- Dissanayake, S., & Perera, L. (2011). A Survey Based Study of Factors Related to Older driver Highway Safety. *Journal of Transportation Safety & Security, 3(2)*, 77–94.
<https://doi.org/10.1080/19439962.2010.537437>
- Esri. (2020). *ArcGIS Pro (2.6)*. Esri Inc. <https://www.esri.com/en-us/arcgis/products/arcgis-pro/overview>
- Feurer, M., & Hutter, F. (2019). Hyperparameter Optimization. In F. Hutter, L. Kotthoff, & J. Vanschoren (Eds.), *Automated Machine Learning: Methods, Systems, Challenges* (pp. 3–33). Springer International Publishing. https://doi.org/10.1007/978-3-030-05318-5_1
- Flynn, D., Gilmore, M., & Sudderth, E. (2018). *Estimating Traffic Crash Counts Using Crowdsourced Data: Pilot analysis of 2017 Waze data and Police Accident Reports in Maryland*. <https://rosap.ntl.bts.gov/view/dot/37256>
- Global Status Report on Road Safety 2018. (2018). In *World Health Organization* (Issue 1). <https://www.who.int/publications/i/item/9789241565684>
- Haenlein, M., & Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. *California Management Review, 61(4)*, 5–14. <https://doi.org/10.1177/0008125619864925>
- Hunter, J. D. (2007). Matplotlib: A 2D graphics environment. *Computing in Science and Engineering, 9(3)*, 90–95. <https://doi.org/10.1109/MCSE.2007.55>
- Jiménez-Mejías, E., Martínez-Ruiz, V., Amezcua-Prieto, C., Olmedo-Requena, R., Luna-Del-Castillo, J. D. D., & Lardelli-Claret, P. (2016). Pedestrian- and driver-related factors associated with the risk of causing collisions involving pedestrians in Spain. *Accident Analysis and Prevention, 92*. <https://doi.org/10.1016/j.aap.2016.03.021>

- Jordahl, K., Bossche, J. van den, Fleischmann, M., Wasserman, J., McBride, J., Gerard, J., Tratner, J., Perry, M., Badaracco, A. G., Farmer, C., Hjelle, G. A., Snow, A. D., Cochran, M., Gillies, S., Culbertson, L., Bartos, M., Eubank, N., maxalbert, Bilogur, A., ... Leblanc, F. (2020). *geopandas/geopandas: v0.8.1*.
<https://doi.org/10.5281/ZENODO.3946761>
- Joshua, S. C., & Garber, N. J. (1990). Estimating truck accident rate and involvements using linear and poisson regression models. *Transportation Planning and Technology*, 15(1), 41–58. <https://doi.org/10.1080/03081069008717439>
- Katchova, A. (2020). *Econometrics Academy - Probit and Logit Models*. Econometrics Academy. <https://sites.google.com/site/econometricsacademy/masters-econometrics/probit-and-logit-models>
- Ke, G., Meng, Q., Finely, T., Wang, T., Chen, W., Ma, W., Ye, Q., & Liu, T.-Y. (2017, December). LightGBM: A Highly Efficient Gradient Boosting Decision Tree. *Advances in Neural Information Processing Systems 30 (NIP 2017)*.
<https://www.microsoft.com/en-us/research/publication/lightgbm-a-highly-efficient-gradient-boosting-decision-tree/>
- Kearney, M. (2017). *Cramér's V*. <https://doi.org/10.4135/9781483381411.n107>
- Kidando, E., Kitali, A. E., Kutela, B., Ghorbanzadeh, M., Karaer, A., Koloushani, M., Moses, R., Ozguven, E. E., & Sando, T. (2021). Prediction of vehicle occupants injury at signalized intersections using real-time traffic and signal data. *Accident Analysis & Prevention*, 149, 105869. <https://doi.org/10.1016/J.AAP.2020.105869>
- Kleinberg, J., Ludwig, J., Mullainathan, S., & Obermeyer, Z. (2015). Prediction Policy Problems. *American Economic Review*, 105(5), 491–495.
<https://doi.org/10.1257/AER.P20151023>
- Komorowski, M., Marshall, D. C., Salciccioli, J. D., & Crutain, Y. (2016). Exploratory data analysis. In *Secondary Analysis of Electronic Health Records* (pp. 185–203). Springer International Publishing. https://doi.org/10.1007/978-3-319-43742-2_15/FIGURES/18
- Lundberg, S. M., & Lee, S. I. (2017). A Unified Approach to Interpreting Model Predictions. *Advances in Neural Information Processing Systems, 2017-December*, 4766–4775.
<https://doi.org/10.48550/arxiv.1705.07874>

- Malmasi, S., & Zampieri, M. (2017). Detecting hate speech in social media. *International Conference Recent Advances in Natural Language Processing, RANLP, 2017-September*, 467–472. <https://doi.org/10.26615/978-954-452-049-6-062>
- Mapbox. (2021). *Mapbox*. Mapbox Inc. <https://www.mapbox.com/>
- Mehdizadeh, A., Cai, M., Hu, Q., Yazdi, M. A. A., Mohabbati-Kalejahi, N., Vinel, A., Rigdon, S. E., Davis, K. C., & Megahed, F. M. (2020). A review of data analytic applications in road traffic safety. Part 1: Descriptive and predictive modeling. *Sensors (Switzerland)*, 20(4). <https://doi.org/10.3390/S20041107>
- Morgenthaler, S. (2009). Exploratory data analysis. *Wiley Interdisciplinary Reviews: Computational Statistics*, 1(1), 33–44. <https://doi.org/10.1002/WICS.2>
- National Council for Road Safety, Sri Lanka. (2020). https://www.transport.gov.lk/web/index.php?option=com_content&view=article&id=29&Itemid=149&lang=en
- Paredes, M., Hemberg, E., O'Reilly, U. M., & Zegras, C. (2017). Machine learning or discrete choice models for car ownership demand estimation and prediction? *5th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems, MT-ITS 2017 - Proceedings*, 780–785. <https://doi.org/10.1109/MTITS.2017.8005618>
- Perera, L., & Dissanayake, S. (2012). Contributing Factors to Older-Driver Injury Severity in Rural and Urban Areas. *Journal of the Transportation Research Forum*, 49(1), 5–22. <https://doi.org/10.5399/OSU/JTRF.49.1.2506>
- Prokhorenkova, L., Gusev, G., Vorobev, A., Dorogush, A. V., & Gulin, A. (2018). Catboost: Unbiased boosting with categorical features. *Advances in Neural Information Processing Systems, 2018-December*, 6638–6648. <https://github.com/catboost/catboost>
- QGIS. (2021). *QGIS (3.22.0)*. Open Source Geospatial Foundation Project. <https://qgis.org/en/site/index.html>
- Reback, J., jbrockmendel, McKinney, W., den Bossche, J. van, Augspurger, T., Cloud, P., Hawkins, S., Roeschke, M., gyoung, Sinhrks, Klein, A., Hoefler, P., Petersen, T., Tratner, J., She, C., Ayd, W., Naveh, S., Darbyshire, J., Garcia, M., ... Seabold, S.

- (2022). *pandas-dev/pandas: Pandas 1.4.1*. Zenodo.
<https://doi.org/10.5281/zenodo.6053272>
- Rokach, L. (2019). *Ensemble Learning : Pattern Classification using Ensemble Methods* (Second). World Scientific.
- Roland, J., Way, P. D., Firat, C., Doan, T. N., & Sartipi, M. (2021). Modeling and predicting vehicle accident occurrence in Chattanooga, Tennessee. *Accident Analysis & Prevention, 149*, 105860. <https://doi.org/10.1016/J.AAP.2020.105860>
- Savolainen, P. T., Mannering, F. L., Lord, D., & Quddus, M. A. (2011). The statistical analysis of highway crash-injury severities: A review and assessment of methodological alternatives. *Accident Analysis and Prevention, 43*(5), 1666–1676.
<https://doi.org/10.1016/j.aap.2011.03.025>
- Senaratna, N. (2021). *LK Geo Data*. <https://github.com/nuuuwan/geo-data>
- Shajith, S. L. A., Pasindu, H. R., & Ranawaka, R. K. T. K. (2019). Evaluating the Risk Factors in Fatal Accidents involving Motorcycle – Case Study on Motorcycle Accidents in Sri Lanka. *Engineer: Journal of the Institution of Engineers, Sri Lanka, 52*(3), 33–42.
<https://doi.org/10.4038/engineer.v52i3.7363>
- Shneiderman, B. (2014). The big picture for big data: Visualization. *Science, 343*(6172), 730.
<https://doi.org/10.1126/SCIENCE.343.6172.730-A/ASSET/B23773B5-0932-4174-8E8C-071CCF844B85/ASSETS/SCIENCE.343.6172.730-A.FP.PNG>
- Silver, D., Huang, A., Maddison, C., Guez, A., Sifre, L., Driessche, G., Schrittwieser, J., Antonoglou, I., Panneershelvam, V., Lanctot, M., Dieleman, S., Grewe, D., Nham, J., Kalchbrenner, N., Sutskever, I., Lillicrap, T., Leach, M., Kavukcuoglu, K., Graepel, T., & Hassabis, D. (2016). Mastering the game of Go with deep neural networks and tree search. *Nature, 529*, 484–489. <https://doi.org/10.1038/nature16961>
- Singh, A. (2017). Deep Learning Will Radically Change the Ways We Interact with Technology. *Harvard Business Review*. <https://hbr.org/2017/01/deep-learning-will-radically-change-the-ways-we-interact-with-technology>
- Sri Lanka's Road Safety Country Profile*. (2021).
<https://www.roadsafetyfacility.org/country/sri-lanka>

- Tay, R., & Rifaat, S. M. (2007). Factors contributing to the severity of intersection crashes. *Journal of Advanced Transportation*, 41(3), 245–265.
<https://doi.org/10.1002/atr.5670410303>
- Thangamani, B. (2019). The Economic Impact of Road Accidents: The Case of Sri Lanka. *South Asia Economic Journal*, 20, 124–137.
<https://journals.sagepub.com/doi/abs/10.1177/1391561418822210>
- Tjoa, E., & Guan, C. (2019). A Survey on Explainable Artificial Intelligence (XAI): Towards Medical XAI. *IEEE Transactions on Neural Networks and Learning Systems*, 14(8), 1–21. <https://doi.org/10.1109/tnnls.2020.3027314>
- Uber. (2021). *Kepler.gl* (2.5.5). Uber Inc. <https://kepler.gl/>
- Waskom, M. L. (2021). seaborn: statistical data visualization. *Journal of Open Source Software*, 6(60), 3021. <https://doi.org/10.21105/joss.03021>
- Williams, A. F. (1999). *The Haddon matrix: its contribution to injury prevention and control*.
- Yee, A., & Alvarado, M. (2012). Pattern recognition and monte-carlo tree search for go gaming better automation. *Lecture Notes in Computer Science*, 7637 LNAI, 11–20.
https://doi.org/10.1007/978-3-642-34654-5_2
- Yuan, Z., Zhou, X., & Yang, T. (2018). Hetero-ConvLSTM: A Deep Learning Approach to Traffic Accident Prediction on Heterogeneous Spatio-Temporal Data. *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 18. <https://doi.org/10.1145/3219819>
- Zychlinski, S. (2018, February 24). *The Search for Categorical Correlation*. Towards Data Science. <https://towardsdatascience.com/the-search-for-categorical-correlation-a1cf7f1888c9>