time compared to Extra Trees. Several authors have highlighted the possibility of integrating external data sources for improved prediction accuracy. Nevertheless, our experiments revealed that incorporating weather data did not enhance prediction. In future work, we plan to explore integrating other external data sources, such as event data, to assess their effect on predicting parking availability. Also, with the advancements in deep learning and its tremendous success across various domains, such as the prediction of time series, we envision the emergence of algorithms based on this type of learning for large-scale parking availability prediction. Thus, it will be interesting to compare the performance of deep learning models with that of Random Forest and Extra Trees algorithms.

Acknowledgements.
The authors would like to thank the Los Angeles Department of Transportation (LADOT) for providing free access to on-street parking data for the City of Los Angeles.

References

[1] D. Schrank, B. Eisele, T. Lomax, 2021 Urban Mobility Report, (2021).
[2] R. Doolan, G.-M. Muntean, VANET-Enabled Eco-Friendly Road Characteristics-Aware Routing for Vehicular Traffic, in: 2013 IEEE 77th Vehicular Technology Conference (VTC Spring), 2013: pp. 1–5.
[3] S.S. Pulugurtha, V.R. Duddu, M. Venigalla, Evaluating spatial and temporal effects of planned special events on travel time performance measures, Transportation Research Interdisciplinary Perspectives. 6 (2020) 100168.
[4] S. Kazi, S. Nuzhat, A. Nashrah, Q. Rameeza, Smart Parking System to Reduce Traffic Congestion, in: 2018 International Conference on Smart City and Emerging Technology (ICSCET), 2018: pp. 1–4.
[5] INRIX Economic Cost of Parking Pain Report, https://www2.inrix.com/research-parking-2017.
[6] An efficient smart parking pricing system for smart city environment: A machine-learning based approach, uture Generation Computer Systems, 2020: pp. 622-640.
[7] G. Jelen, V. Podobnik, J. Babic, Contextual prediction of parking spot availability: A step towards sustainable parking, Journal of Cleaner Production. 312 (2021) 127684.
[8] Y. Zheng, S. Rajasegarar, C. Leckie, Parking availability prediction for sensor-enabled car parks in smart cities, in: 2015 IEEE Tenth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), 2015: pp. 1–6.
[9] F. Al-Turjman, A. Malekloo, Smart parking in IoT-enabled cities: A survey, Sustainable Cities and Society. 49 (2019) 101608. https://doi.org/10.1016/j.scs.2019.101608.
[10] J. Arjona, M.P. Linares, J. Casanovas, A deep learning approach to real-time parking availability prediction for smart cities, in: Proceedings of the Second International Conference on Data Science, E-Learning and Information Systems, Association for Computing Machinery, New York, NY, USA, 2019: pp. 1–7.
[11] S. Yang, W. Ma, X. Pi, S. Qian, A deep learning approach to real-time parking occupancy prediction in spatio-temporal networks incorporating multiple spatio-temporal data sources, ArXiv:1901.06758 [Cs, Stat]. (2019). http://arxiv.org/abs/1901.06758 (accessed October 13, 2021).
[12] Los Angeles - Open Data Portal, City of Los Angeles. (n.d.). https://data.lacity.org/browse?category=transportation (accessed April 17, 2022).
[13] Weather Data Services | Visual Crossing, (n.d.). https://www.visualcrossing.com/weather/weather-data-services#/login (accessed October 13, 2021).
[14] L. Breiman, Random Forests, Machine Learning. 45 (2001) 5–32.
[15] F. Martínez, M.P. Frías, M.D. Pérez, A.J. Rivera, A methodology for applying k-nearest neighbor to time series forecasting, Artif Intell Rev. 52 (2019) 2019–2037.
[16] D. Maulud, A.M. Abdulazeez, A Review on Linear Regression Comprehensive in Machine Learning, Journal of Applied Science and Technology Trends. 1 (2020) 140–147.
[17] E. Cule, M. De Iorio, Ridge Regression in Prediction Problems: Automatic Choice of the Ridge Parameter, Genetic Epidemiology. 37 (2013) 704–714.
[18] J. Singh Kushwah, A. Kumar, S. Patel, R. Soni, A. Gawande, S. Gupta, Comparative study of regressor and classifier with decision tree using modern tools, Materials Today: Proceedings. (2021).
[19] J.H. Friedman, Greedy Function Approximation: A Gradient Boosting Machine, The Annals of Statistics. 29 (2001) 1189–1232.
[20] P. Geurts, D. Ernst, L. Wehenkel, Extremely randomized trees, Mach Learn. 63 (2006) 3–42.
[21] A. Sharma, Guided Stochastic Gradient Descent Algorithm for inconsistent datasets, Applied Soft Computing. 73 (2018) 1068–1080.
[22] M. Sabzekar, S.M.H. Hasheminejad, Robust regression using support vector regressions, Chaos, Solitons & Fractals. 144 (2021) 110738.