

# Dynamic Demand Prediction for Sustainable Bike Sharing Systems

By Alexander Busch and Kaifeng Lu as part of the course project of ECE1724H: Bio-inspired Algorithms for Smart Mobility. Dr. Alaa Khamis, University of Toronto, 2024.

## Literature Review

### Depth and Breadth of Survey

1. A review on bike-sharing: The factors affecting bike-sharing demand [1]:
2. Data Analysis and Optimization for (Citi)Bike Sharing [2]:
3. Modeling bike-sharing demand using a regression model with spatially varying coefficients [3]:
4. Modeling Bike Availability in a Bike-Sharing System Using Machine Learning [4]:

## Taxonomic Classification

## References

### Bibliography

- [1] E. Eren and V. E. Uz, "A review on bike-sharing: The factors affecting bike-sharing demand," *Sustainable Cities and Society*, vol. 54, p. 101882–101883, 2020, doi: <https://doi.org/10.1016/j.scs.2019.101882>.
- [2] E. O'Mahony and D. Shmoys, "Data Analysis and Optimization for (Citi)Bike Sharing," *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 29, no. 1, Feb. 2015, doi: 10.1609/aaai.v29i1.9245.
- [3] H. I. Ashqar, M. Elhenawy, M. H. Almannaa, A. Ghanem, H. A. Rakha, and L. House, "Modeling bike availability in a bike-sharing system using machine learning," in *2017 5th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS)*, 2017, pp. 374–378. doi: 10.1109/MTITS.2017.8005700.
- [4] X. Wang, Z. Cheng, M. Trépanier, and L. Sun, "Modeling bike-sharing demand using a regression model with spatially varying coefficients," *Journal of Transport Geography*, vol. 93, p. 103059–103060, 2021, doi: <https://doi.org/10.1016/j.jtrangeo.2021.103059>.