

Cycling Safety Rating for Roads Shared by Commuter and Logistics Cyclists

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Over the past decade, there have been a number of research regarding road cycling safety such as the prediction of bike-involved collision severity, identification of influencing factors and assessment of cycling safety levels. Many data-driven models have been employed in these studies, among which the Logistic regression is most commonly used. However, as a parametric model, Logistic regression assumes linear relations of variables making it impossible to capture the complexity of the real world. Therefore, this research will use a non-parametric model called CART (Classification and Regression Tree) that has no assumption of variable distribution and is highly explainable and apply it to objective data including bike-involved collision data and road feature data to rate cycling safety. The model is then applied to an urban area in London, UK. The roads in this area are present in different colors indicating the safety levels.

Link to the thesis: <https://resolver.tudelft.nl/uuid:ce2b93f3-3699-4231-ace0-47a7499f50d4>