The paper titled "Predicting Time to Pushback of Flights in U.S. Airports" by Daniil Filienko, Yudong Lin, Kyler Robison, Trevor Tomlin, and Martine De Cock, focuses on the development of a machine learning model to predict the pushback time of flights[2]. The pushback time refers to the moment at which a departing aircraft is pushed back from its parking position at the gate[2]. Accurate predictions of pushback time can yield more accurate predictions of flight takeoff time[2].

The model proposed in the paper is a gradient boosting decision tree model for pushback time prediction[2]. It is trained on a rich feature set encompassing data about weather, airport activity, airline, and aircraft characteristics[2]. The authors found that training one local model for each airport is more memory efficient, while yielding a mean absolute error at par with a global model trained over the data of all airports combined[2].

This research was conducted in response to the 2023 "Pushback to the Future" competition hosted by NASA[2]. The authors' approach was among the winners of the competition[2]. This work contributes to the efficient use of the limited capacity of airports and runways by improving the accuracy of air traffic management systems[2].

Source: Conversation with Copilot, 5/24/2024
(1) Predicting Time to Pushback of Flights in U.S. Airports - kdd.org. https://www.kdd.org/kdd2023/wp-content/uploads/2023/08/filienko2023predicting.pdf.
(2) KDD '23: Proceedings of the 29th ACM SIGKDD Conference on Knowledge .... https://www.kdd.org/kdd2023/wp-content/uploads/2023/08/toc.html.
(3) KDD 2023 | Long Beach, CA, USA - KDD 2023. https://www.kdd.org/kdd2023/index.html.
(4) undefined. https://doi.org/XXXXXXX.XXXXXXX.