Here is a concise 3-paragraph summary of the paper:

<paragraph 1> This paper describes a gradient boosting decision tree model developed to predict the time to pushback of flights at U.S. airports. Accurate pushback time predictions can yield better predictions of takeoff times, which is important for efficient air traffic management. The authors extracted a rich set of features from weather data, airport activity data, airline information, and aircraft characteristics to train their model to minimize the mean absolute error (MAE) in predicting the number of minutes until pushback. </paragraph>

<paragraph 2> The authors evaluated their approach on a large dataset spanning 10 U.S. airports. They found that training separate local models for each airport was as effective as training a single global model on the combined data, but the local approach was more computationally efficient. The most important features were the estimated time of departure, the time elapsed since the flight was first tracked, expected departures in the next 30 minutes, recent taxi times, and aircraft/airline information. </paragraph>

<paragraph 3> The local model approach achieved an MAE around 10.7 minutes on the validation data, a substantial improvement over a 14.3 minute baseline error from a simple heuristic. The authors' models placed in the top 4 of the "Pushback to the Future" competition hosted by NASA. Key future work is developing federated learning approaches to leverage private airline data like number of checked bags while preserving privacy. </paragraph>