# Abstract

Flight delays are a persistent issue in the aviation industry, affecting millions of passengers worldwide. This project aims to build an intelligent system capable of predicting flight delays based on various historical and real-time data. By leveraging the power of machine learning and modern web development tools, we provide an end-to-end solution that not only forecasts delays but also offers an intuitive user interface for seamless interaction.

The prediction model was developed using Python on Google Colab, utilizing libraries such as Scikit-learn and Pandas for data preprocessing, model training, and evaluation. The web application front end was built using React with TypeScript and styled with Tailwind CSS, ensuring a responsive and user-friendly design. The integration of the machine learning model into the web interface enables users to input flight-related details and receive real-time delay predictions.

This project demonstrates the effective use of cross-platform tools to deliver a practical and scalable solution for flight delay management, helping both travelers and airline operators make more informed decisions.