

**Department :- Computer Engineering Project Synopsis**

# Group Id and Names:

Group ID:20

i) Pranita Rajure

ii) Harsimran Bakshi

iii) Samiksha Bankar

iv) Suraj Hambire

# Project Title:

Airfare Prediction

# Project Domain:

Machine Learning

# Internal Guide:

Prof. B.A.Patil

# Sponsorship and External Guide:

No

1. **Literature Survey:**

# [K. Tziridis](https://ieeexplore.ieee.org/author/37086259017); [Th. Kalampokas](https://ieeexplore.ieee.org/author/37086255140); [G. A. Papakostas](https://ieeexplore.ieee.org/author/37297465700); [K. I. Diamantaras](https://ieeexplore.ieee.org/author/37284720000) “Airfare prices prediction using machine learning techniques”, IEEE,2017

# Advantages:

# Gathered airfare data from a specific Greek airline corporation (Aegean Airlines) from the web and showed that it is feasible to predict prices for flights based on historical fare data.

1. Tianyi Wang*;* Samira Pouyanfar*;*  Haiman Tian*;* Yudong Tao*;* Miguel Alonso Jr.*;*  Steven Luis*;* Shu-Ching Chen, “A Framework for Airfare Price Prediction: A Machine Learning Approach”, IEEE,2019

**Advantages**:

combined two public datasets (DB1B and T-100) and predicts quarterly average airfare price with an adjusted R squared score of 0.869.

# [Viet Hoang Vu](https://ieeexplore.ieee.org/author/37086371477); [Quang Tran Minh](https://ieeexplore.ieee.org/author/37086370459); [Phu H. Phung](https://ieeexplore.ieee.org/author/37086370842), “An airfare prediction model for developing markets”,IEEE,2018

# Advantages:

# This model not only predict the airfare but also identify which airfare’s features that have the strongest impacts on the airfare changes.

# Problem Statement:

# Design and implement a software system for flight price prediction using machine learning algorithm.

# Technical Keywords (Any Five):

# Alphabetical Order:

Airfare price, Machine learning algorithm, predictive models, airfare changes

# Abstract:

What is the best time to buy a flight ticket? Air passengers (the buyers) are often looking for the best time period to purchase airfares to get as much saving as possible while airlines (the sellers) always try to maximize their revenues by revising different prices for the same service. The airline implements dynamic pricing for the flight ticket. Flight ticket prices change during the morning and evening time of the day. Also, it changes with the holidays or festival season. There are several different factors on which the price of the flight ticket depends. The price of an airline ticket is affected by a number of factors, such as flight distance, purchasing time, fuel price, etc.  The sellers have all the necessary information (for example historical sale, market demand, customer profile, and behavior) to make the decision whether to increase or decrease airfares at different times prior to the departure dates. On the other hand, the buyers are only able to access limited information only which is not enough to predict the airfare prices.Considering the features such as departure time, the number of days left for departure and time of the day it will give the best time to buy the ticket. Features are extracted from the collected data to apply Machine Learning (ML) models.Then using this information, build a system that can help buyers whether to buy a ticket or not.

# Goals and Objectives:

* Objectives:

To create a system that can predict the flight ticket price using data.

To provide buyers best time to buy tickets.

To provide average price of tickets to buyers.

# Relevant mathematics associated with the Project:

System Description:

* Input: Travelling details
* Output: Predicted price

# List of Reference Papers of Conference/Journal supporting Project idea:

1. **Supriya Rajankar; Neha Sakharkar, “**A Survey on Flight Pricing Prediction using Machine Learning”, IJERT,2019
2. <https://www.researchgate.net/publication/337821411_Predicting_Flight_Prices_in_India>
3. L. Breiman, “Random forests,” Machine Learning, vol. 45, pp. 5–32, October 2001.

# Reviews/Comments by Internal Guide:

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**Sign of Guide Sign of Project Co-ordinator Sign of HOD**