**INTRODUCTION**

The economic impact of airline delays extends across the aviation sector, affecting airports, airlines, and passengers on a global scale [1]. The resulting operational disruptions lead to increased operational costs for airlines, reduced airport efficiency, and, consequently, diminished passenger satisfaction. The complexity of managing and mitigating the effects of delays necessitates a comprehensive understanding of the contributing factors. The Bureau of Transportation Statistics (BTS) estimates that delays account for 20% of all commercial flights [2]. This study incorporates multiple machine learning algorithms for a comparative analysis aimed at assessing the accuracy of each algorithm. The paper follows this structure: Section II entails a literature review derived from various sources, while Section III describes the techniques applied for data pre-processing and cleaning. Section IV provides an in depth discussion of the methodologies employed and the comparative study conducted.