**“Machine Learning based Expense Analyzer”**

**1.0 Introduction**

Expense tracking is an essential aspect of personal and business financial management. With the advent of modern technologies, managing expenses has become more convenient than ever. In our day-to-day life, we often find it difficult to manage our expenses as we are more into our life. Bachelors often find it difficult at the end of the month to manage their expenses which leads them with literally no money. So, this application make it easier for a user to manage their expenses based on the data. Machine Learning (ML) is one such technology that has gained significant attention in recent years for its ability to perform complex tasks, including expense analysis. Machine Learning based expense analyzers can provide automated and accurate insights into one's spending patterns, enabling individuals and businesses to make informed decisions about their finances.

Traditional applications that are available for budget expenses management have a persistent problem when they are deployed for the market. In those applications, there are fixed proportions of salary divided as a globalized ratios such as 50% for the needs, 30% for the luxury and 20% for the savings just to say so. But with the difference in age groups, these types do not comply with all the individual, so these applications fail as users and age-defined test subject increases.

Personal budget applications have swept the globe in recent years and will continue to do so. Since more individuals are using their phones to manage their finances, applying for Visas, corporate and personal payments for various items, and the impact of coronavirus has also contributed to an increase in cost management applications.

The end of this exploration paper is to explore the eventuality of Machine literacy, grounded expenditure analyzers in furnishing precious perceptivity into particular and business charges. Machine literacy is applied in wide variety of fields videlicet robotics, virtual assistant ( like Google), computer games, pattern recognition, natural language processing, data mining, business vaticination, online cab booking system (e.g. estimating surge price in peak hour by Uber app), product recommendation, share market prediction, medical opinion, online fraud vaticination, advisory, BoTs( chatbots for online client support), E-mail spam filtering, crime vaticination through videotape surveillance system, social media services( face recognition in Facebook). Machine literacy generally deals with those updates can also affect noisy slants, which may beget the error rate to jump around, rather of dwindling sluggishly. The paper will discuss the underlying concepts of Machine Learning, its applications in expense analysis, and the benefits of using an ML-based expense analyzer. Additionally, the paper will provide an overview of the current state of the art in ML-based expense analysis and highlight potential areas for further research. Overall, this paper aims to provide a comprehensive overview of ML-based expense analysis and its potential to revolutionize the way we manage our finances. By understanding the capabilities and limitations of ML-based expense analyzers, individuals and businesses can make informed decisions about adopting this technology to optimize their expenses and achieve their financial goals.