

**PREDICTING FUTURE EXPENSES FROM PERSONAL  
DATA WITH MACHINE LEARNING FOR EMPLOYED  
GRADUATES IN SRI LANKA**

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## Abstract

The focus of this research study is to attend to research that has a significant impact on one life to change for the good. This objective is discussed, and the solution will be implemented using the knowledge and concept of personal data, which is a potentially hardly tapped and less considerate subject in now existing superior society. Nevertheless, the technical advances of current society tend to find ubiquitous entities, methods, functionalities to ease human-kind lives easier and more conveniently.

Anyway, these advances may not cost each and everyone's efforts, but it cost a partial amount of monetary sum to get on with the livelihood by keeping up with the advances and enhancements whereas forcing the need to keep a record. Many would not know how to keep track of the costs, handle them efficiently, and understand the advantage if used properly. Being considerate of such loopholes in the existing society, this study will provide a complete formulation from Question to answer on the solution from the big data aspect. Some may question the general ideology of keeping the track record of expense data is inefficient, useless or its need to implement an AI model to record the information; as to answer, the expenditure data will not be the same for every person, same for every month and same for every situation. Such as when borrowing a bank loan, for an immigration plan, leasing plan it's all about achieving the goal with an income-driven saving. Concerning the Sri Lankan community, it is always needed to handle economical aspects wisely and carefully. Unfortunately, reliable resource as such is not available for the socially middle-class families or in such a way they may not know how to handle and overcome the hurdle in most cases. Again, this study let alone be a steppingstone for the Sri Lanka community to introduce technical methods starting by allowing the fresh graduates to be utilized.

Initial details of having chosen the topic demonstrated in the Introduction section of this study highlighting why the need of suggested solution needs to be available combined with prediction and recommendation as well as objectives that will be achieved. Secondly, the document includes the existing research studies, theories behind and the gap analysis compared with existing solution and suggesting solution, thus illustrating a conceptual diagram of what variables will be chosen to execute the implementation part of this study. Thirdly, from the methodology and the requirement analysis section, information includes what types of data were collected to execute the mentioned model, how the data is cleansed to apply to the final solution as well as challenges that have been faced. Moreover, the final chapters of this study contain what and how the time series models were used and in what way the hybrid recommendation model is implemented.

To sum up, at the end of the study separate section is included mentioning what is future work can be performed if the study is continued.