

Micro Credit Defaulter Model

Submitted by:

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**ACKNOWLEDGMENT**

This includes mentioning of all the references, research papers, data sources, professionals and other resources that helped you and guided you in completion of the project.

**INTRODUCTION**

* Business Problem Framing

A Micro Finance Institution (MFI) is an organization that offers financial services to low income populations. The Micro Finance Services (MFS) provided by MFI are Group Loans, Agricultural Loans, Individual Business Loans and so on.

Today, microfinance is widely accepted as a poverty reduction tool, representing $70 billion in outstanding loans and a global outreach of 200 million clients.

Our client having the understanding of the importance of communication and how it affect a person’s life , is focusing on providing their fixed wireless telecommunication services and products to low income families and poor customers .

They are collaborating with an MFI to provide micro credit on mobile balances to be paid back in 5 days. The consumer is believed to be defaulter if he/she deviates from the path of paying back the loaned amount within the time duration of 5 days.

Now, in order to improve the selection of customers for the credit, the client wants some predictions that could help them in further investment and improvement in selection of customers.

* Conceptual Background of the Domain Problem

The new contenders in financial industry are telephone companies especially wireless network providers. The banking industries latest challenge at hand, literally , in the form of the increasing mobile phone users.

The epicentre for transformation of banking industry will be the convergence of banking and telecom players.

Financial inclusion of low income population can largely be fueled by mobile money which expands the chances to access the financial services beyond payments.

* Review of Literature

This is a comprehensive summary of the research done on the topic. The review should enumerate, describe, summarize, evaluate and clarify the research done.

* Motivation for the Problem Undertaken

Describe your objective behind to make this project, this domain and what is the motivation behind.

**Analytical Problem Framing**

* Mathematical/ Analytical Modeling of the Problem

Describe the mathematical, statistical and analytics modelling done during this project along with the proper justification.

* Data Sources and their formats

What are the data sources, their origins, their formats and other details that you find necessary? They can be described here. Provide a proper data description. You can also add a snapshot of the data.

* Data Preprocessing Done

What were the steps followed for the cleaning of the data? What were the assumptions done and what were the next actions steps over that?

* Data Inputs- Logic- Output Relationships

Describe the relationship behind the data input, its format, the logic in between and the output. Describe how the input affects the output.

* State the set of assumptions (if any) related to the problem under consideration

Here, you can describe any presumptions taken by you.

* Hardware and Software Requirements and Tools Used

Listing down the hardware and software requirements along with the tools, libraries and packages used. Describe all the software tools used along with a detailed description of tasks done with those tools.

**Model/s Development and Evaluation**

* Identification of possible problem-solving approaches (methods)

Describe the approaches you followed, both statistical and analytical, for solving of this problem.

* Testing of Identified Approaches (Algorithms)

Listing down all the algorithms used for the training and testing.

* Run and Evaluate selected models

Describe all the algorithms used along with the snapshot of their code and what were the results observed over different evaluation metrics.

* Key Metrics for success in solving problem under consideration

What were the key metrics used along with justification for using it? You may also include statistical metrics used if any.

* Visualizations

Mention all the plots made along with their pictures and what were the inferences and observations obtained from those. Describe them in detail.

If different platforms were used, mention that as well.

* Interpretation of the Results

Give a summary of what results were interpreted from the visualizations, preprocessing and modelling.

**CONCLUSION**

* Key Findings and Conclusions of the Study

Describe the key findings, inferences, observations from the whole problem.

* Learning Outcomes of the Study in respect of Data Science

List down your learnings obtained about the power of visualization, data cleaning and various algorithms used. You can describe which algorithm works best in which situation and what challenges you faced while working on this project and how did you overcome that.

* Limitations of this work and Scope for Future Work

What are the limitations of this solution provided, the future scope? What all steps/techniques can be followed to further extend this study and improve the results.