# India ML Hiring Hackathon 2019 by Analytics Vidya

- Competition Link: https://datahack.analyticsvidhya.com/contest/india-ml-hiring-hackathon-2019/

- LeaderBoard F1-Score: 0.3057851240 (Public Leaderboard)

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# Loan Delinquency Prediction

Loan default prediction is one of the most critical and crucial problem faced by financial institutions and organizations as it has a noteworthy effect on the profitability of these institutions. In recent years, there is a tremendous increase in the volume of non – performing loans which results in a jeopardizing effect on the growth of these institutions.

Therefore, to maintain a healthy portfolio, the banks put stringent monitoring and evaluation measures in place to ensure timely repayment of loans by borrowers. Despite these measures, a major proportion of loans become delinquent. Delinquency occurs when a borrower misses a payment against his/her loan.

Given the information like mortgage details, borrowers related details and payment details, our objective is to identify the delinquency status of loans for the next month given the delinquency status for the previous 12 months (in number of months)

## Data Description

train.zip contains train.csv. train.csv contains the training data with details on loan as described in the last section

## Data Dictionary

\* loan\_id Unique loan ID

\* source Loan origination channel

\* financial\_institution Name of the bank

\* interest\_rate Loan interest rate

\* unpaid\_principal\_bal Loan unpaid principal balance

\* loan\_term Loan term (in days)

\* origination\_date Loan origination date (YYYY-MM-DD)

\* first\_payment\_date First instalment payment date

\* loan\_to\_value Loan to value ratio

\* number\_of\_borrowers Number of borrowers

\* debt\_to\_income\_ratio Debt-to-income ratio

\* borrower\_credit\_score Borrower credit score

\* loan\_purpose Loan purpose

\* insurance\_percent Loan Amount percent covered by insurance

\* co-borrower\_credit\_score Co-borrower credit score

\* insurance\_type 0 - Premium paid by borrower, 1 - Premium paid by Lender

\* m1 to m12 Month-wise loan performance (deliquency in months)

\* m13 target, loan deliquency status (0 = non deliquent, 1 = deliquent)

## test.zip

test.zip contains test.csv which has details of all loans for which the participants are to submit the delinquency status - 0/1 (not probability)

## sample\_submission.zip

sample\_submission.zip contains the submission format for the predictions against the test set. A single csv needs to be submitted as a solution.

## Evaluation Metric

Submissions are evaluated on F1-Score between the predicted class and the observed target.

# LeaderBoard F1-Score: 0.31315315 (Public Leaderboard)