CORE\_ML

**supervised learning project**

**ANALYSIS ON LOAN\_APPROVAL PREDICTION**

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INDUSTRY: FINANCE

DATASET: LOAN\_APPROVAL

LINK: https://www.kaggle.com/datasets/berkayeserr/phone-prices

**Features**:

1 **person\_age**

**2 person\_gender**

**3 person\_education**

**4 person\_income**

**5 person\_emp\_exp**

**6 person\_home\_ownership**

**7 loan\_amnt**

**8 loan\_intent**

**9 loan\_int\_rate**

**10 loan\_percent\_income**

**11 cb\_person\_cred\_hist\_length**

**12 credit\_score**

**13 previous\_loan\_defaults\_on\_file**

**14 loan\_status**

**Importance of Features:**

1 **person\_age:**

**This feature indicates person's age.**

**This will not affect on loan approval decision directly.**

**2 person\_gender:**

**This feature indicates person’s gender.**

**This will not affect on loan approval decision directly.**

**3 person\_education:**

**This feature indicates persons education point of view.**

**The quality of education can be play an good role to approve loan .**

**4 person\_income:**

**This feature is one of pillor for analysis and loan approval.**

**Which indicates income of person.**

**5 person\_emp\_exp:**

**This feature indicates person’s professional experiance.**

**This is also a key feature to approve loan.**

**6 person\_home\_ownership:**

**This feature describes ownership of an asset.**

**This feature is important for loan approval in terms of keeping an asset in front of giving loan as security.**

**7 loan\_amnt:**

**This Feature indicates amount of loan taken by user.**

**Amount of loan is also an good fector on loan approval.**

**8 loan\_intent:**

**This feature indicates intension behind of loan.**

**Type of loan is also a good factor to analysis.**

**9 loan\_int\_rate:**

**This feature indicates interest rate.**

**This will not affect directly because intrest rate is also affected by other fectors.**

**10 loan\_percent\_income:**

**This feature indicates ration between interest rate and income.**

**Yes this is an important pillor for approval which indicates percentage ratio between loan amount and person’s income**

**11 cb\_person\_cred\_hist\_length:**

**This feature indicates length of time period upon previous recorded loan.**

**12 credit\_score:**

**This is one of pivotal feature for analysis.**

**This describes credit score.**

**13 previous\_loan\_defaults\_on\_file:**

**Most pivotal feature to grant loan, Which describes history about loan full-fillment.**

**14 loan\_status:**

**This indicates loan status (approved ot not)**

**ALGORITHMS**:

1.Random forest

2.KNN

3.SVM

4.Logistic regression

5.Decision tree

OUTPUT FEATURES:

**PREDICTION:** loan\_status

**ACCURACY:**

1.Random forest : 0.94

2.KNN : 0.88

3.SVC : 0.81

4.Logistic regression : 0.88

5.Decision tree : 0.92

**BEST ALGORYTHEM :** Random forest