Predicting Home Loan Approval

To help the Consumer Financial Protection Bureau

Buying a house:
Tools and resources for homebuyers

Whether you're just thinking about buying a home or about to close, we help you take control of the process.

Fill out this survey to see if you are likely to be approved for a loan

Data
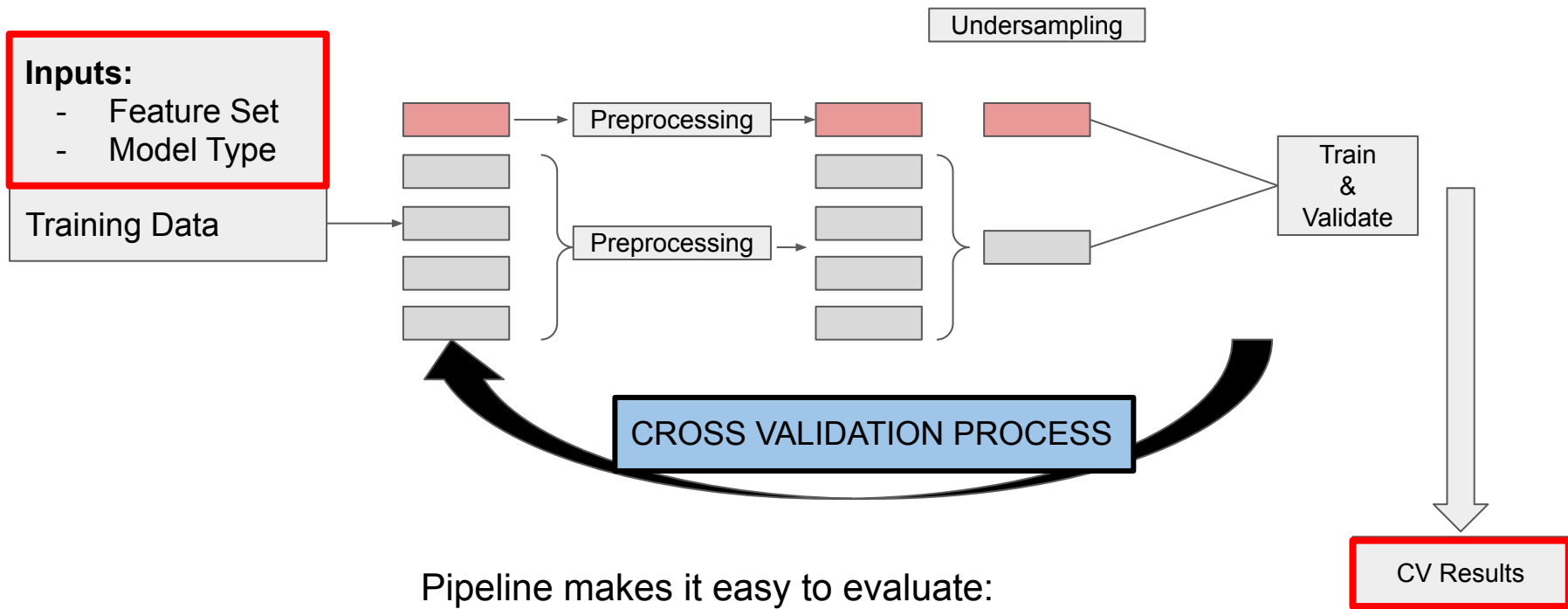
(Source: Consumer Financial Protection Bureau)

- California Mortgage Applications in 2017

- ~1M Applications (~500k after downsampling)

- Features
  - Loan details
  - Applicant financial and demographic info
  - Economics and demographics of loacation

What to optimize for?

ROC AUC

GBM Classifier:

0.71 ROC AUC

Inputs:
- Feature Set
- Model Type

Training Data

Undersampling

Preprocessing

Preprocessing

Train & Validate

CROSS VALIDATION PROCESS

CV Results

Pipeline makes it easy to evaluate:

- Different feature sets

- Different model types

Next Steps - Create models for more states

1M+

14M+