FALL 2017 WAF DATA CHALLENGE

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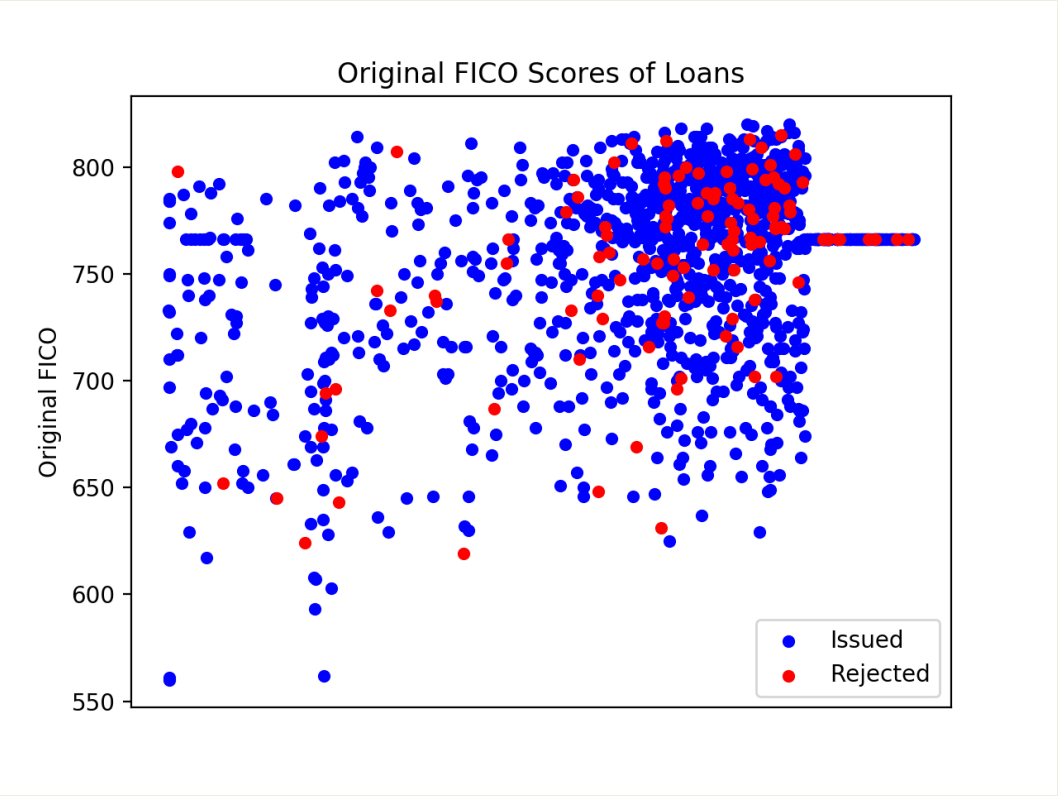
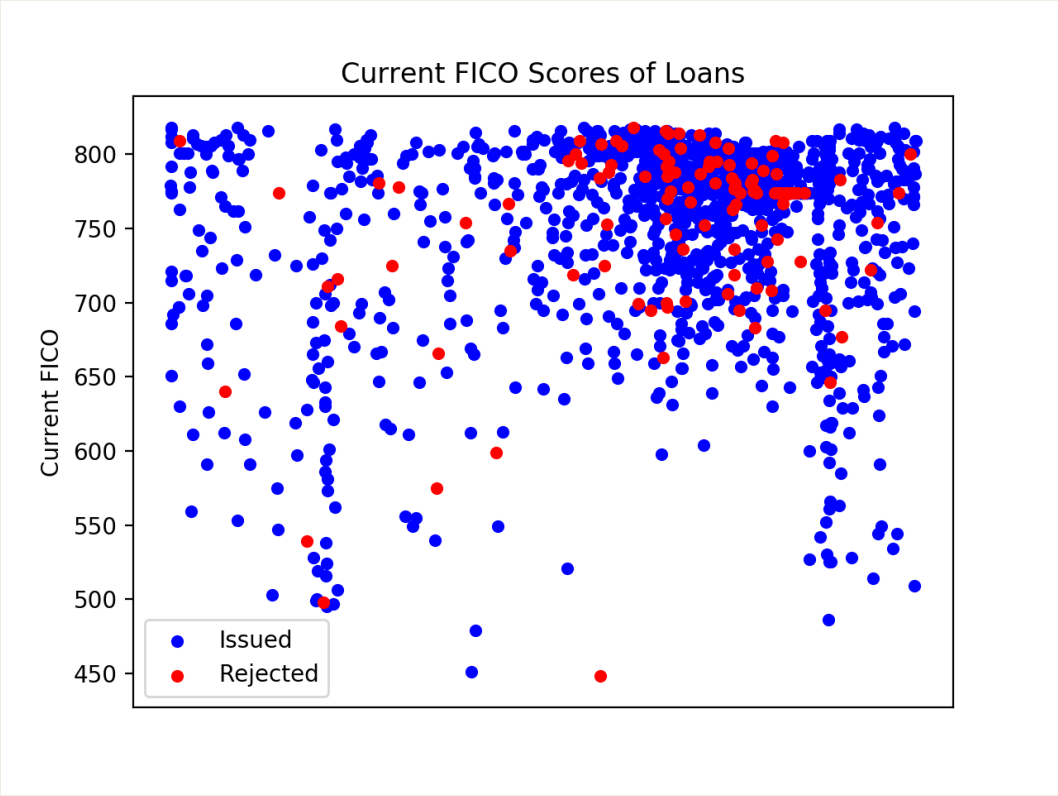
Recommendation

Do not take LoanID 73622

- Low employment/High unemployment
- High crime rate
- High delinquency rate
- High percentage of free cash on payments
- Pattern of rejection in neighborhood
- Zip in question: 10466

FICO Scores?

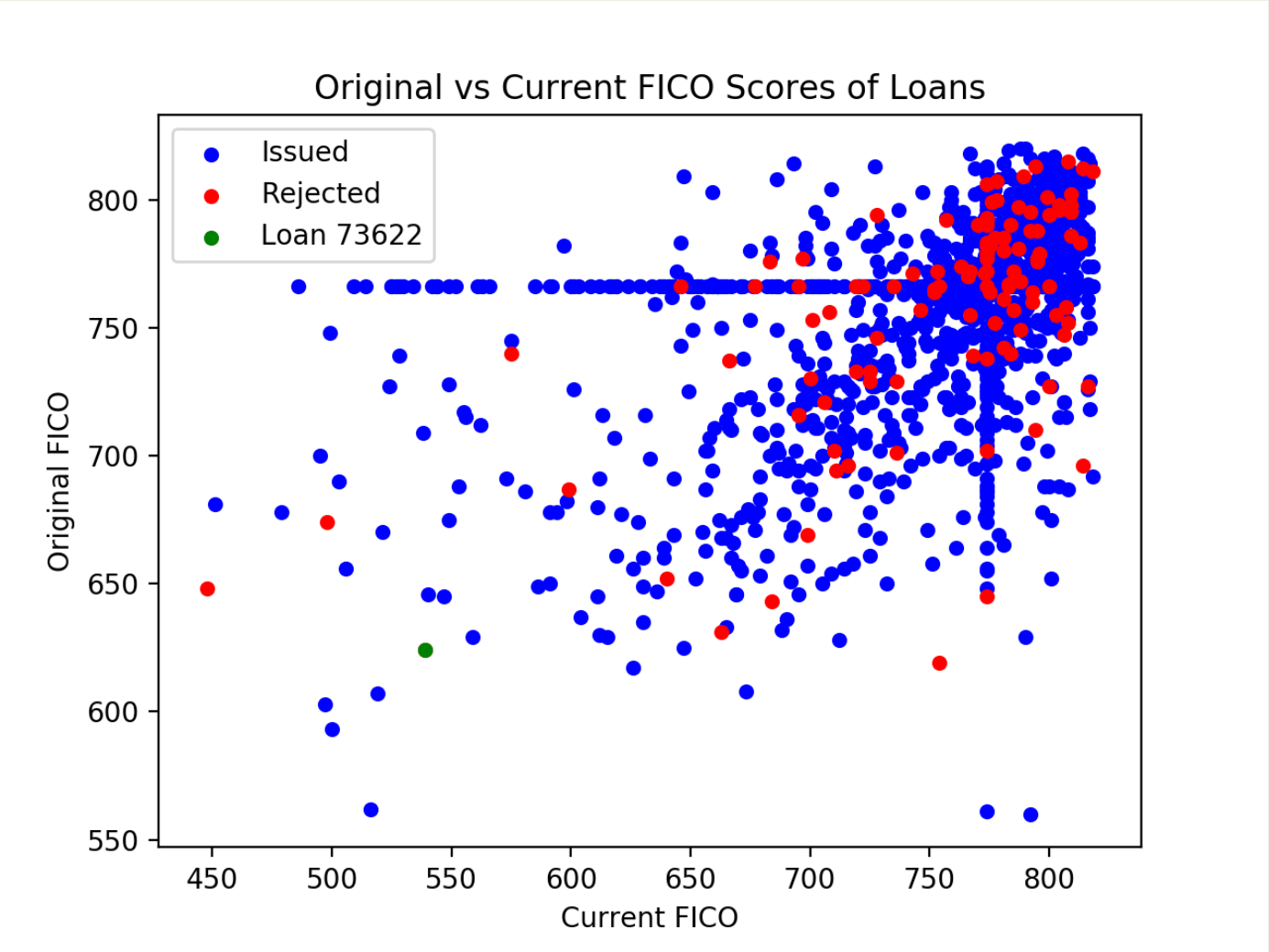




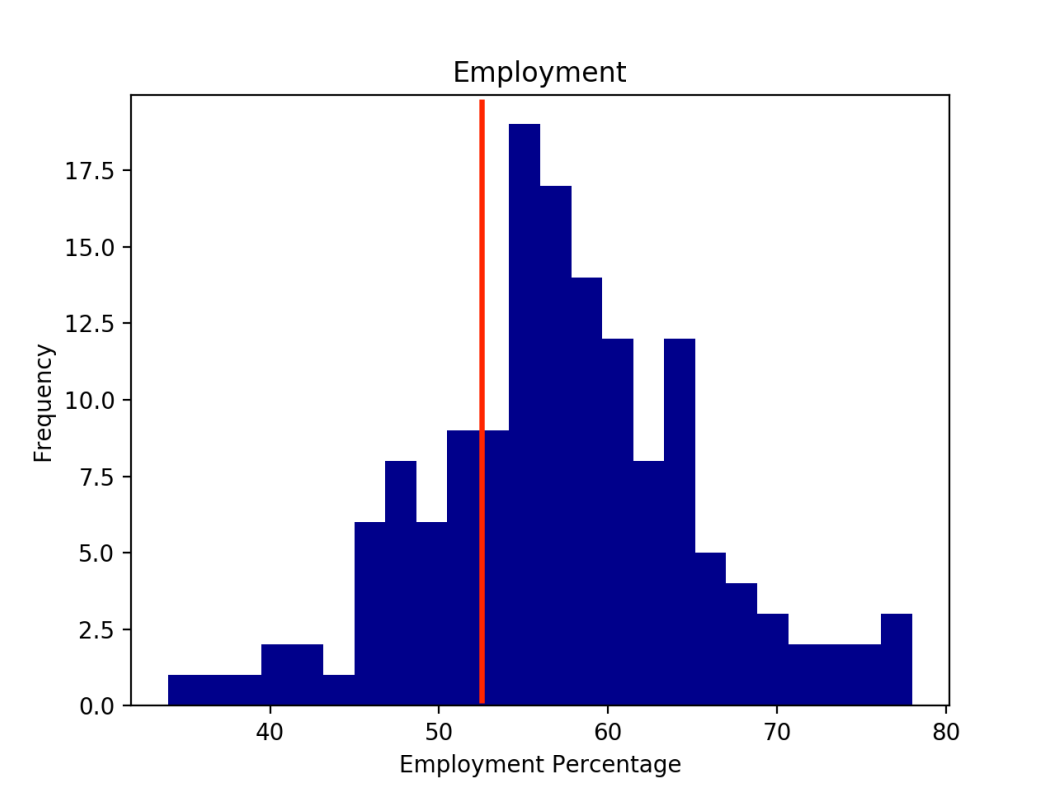
- FICO scores seem to measure credit
- But no correlation between issuing and FICO score

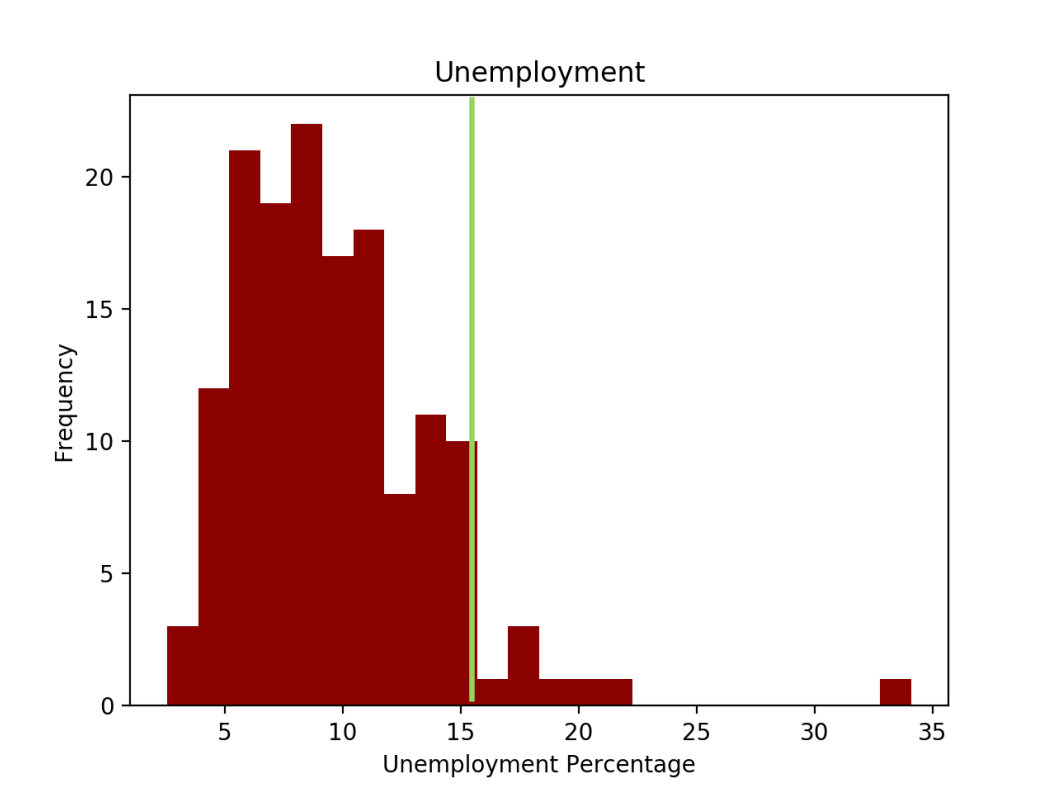
FICO Scores?

- Change in FICO score
  - Separated by Issued/Rejected
- Once again, no correlation
- 73622's FICO decrease is NOT out of place…
- 'Lines' maybe due to bad data?
- Better metrics needed!



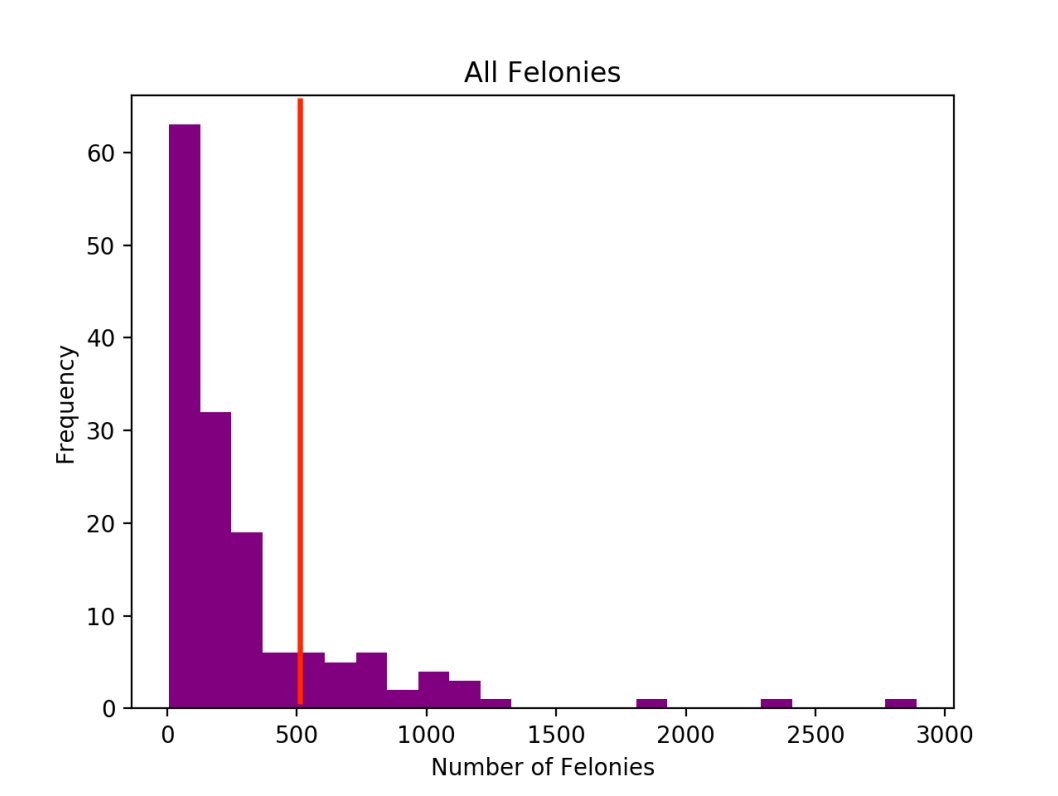
Employment / Unemployment

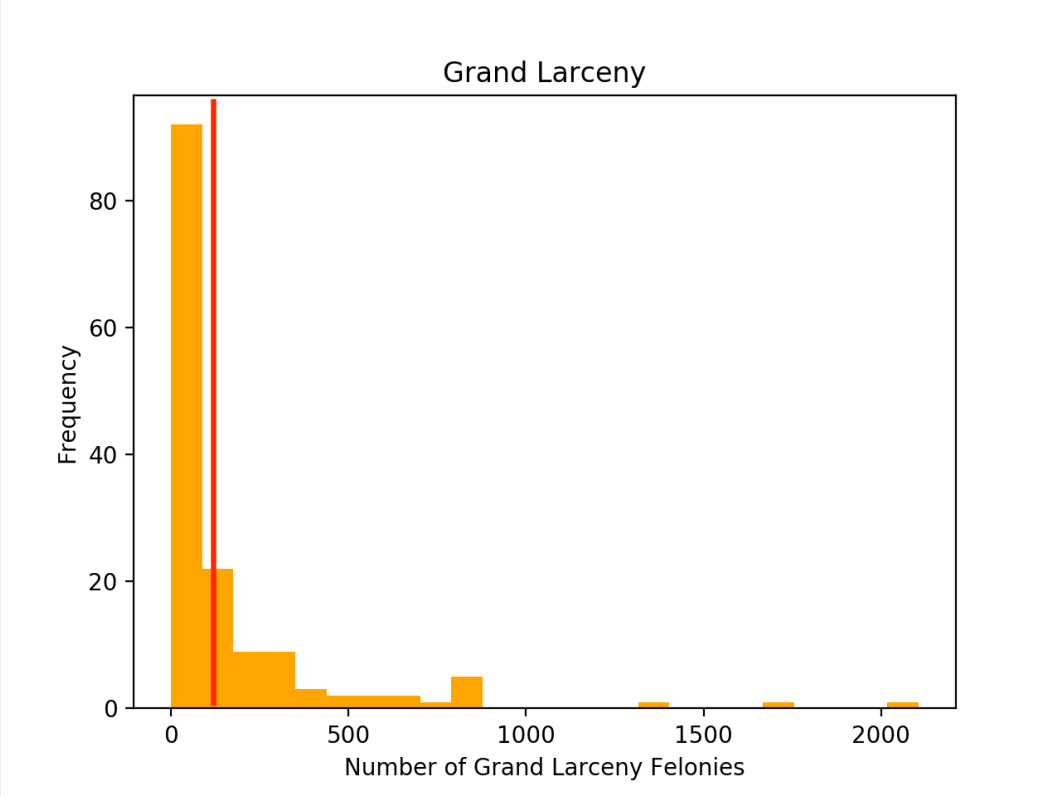




- Employment: 52.2% | ~50 percentile
- Unemployment: 15.2% | >75 percentile
- Large unemployment may be a sign of economic stress

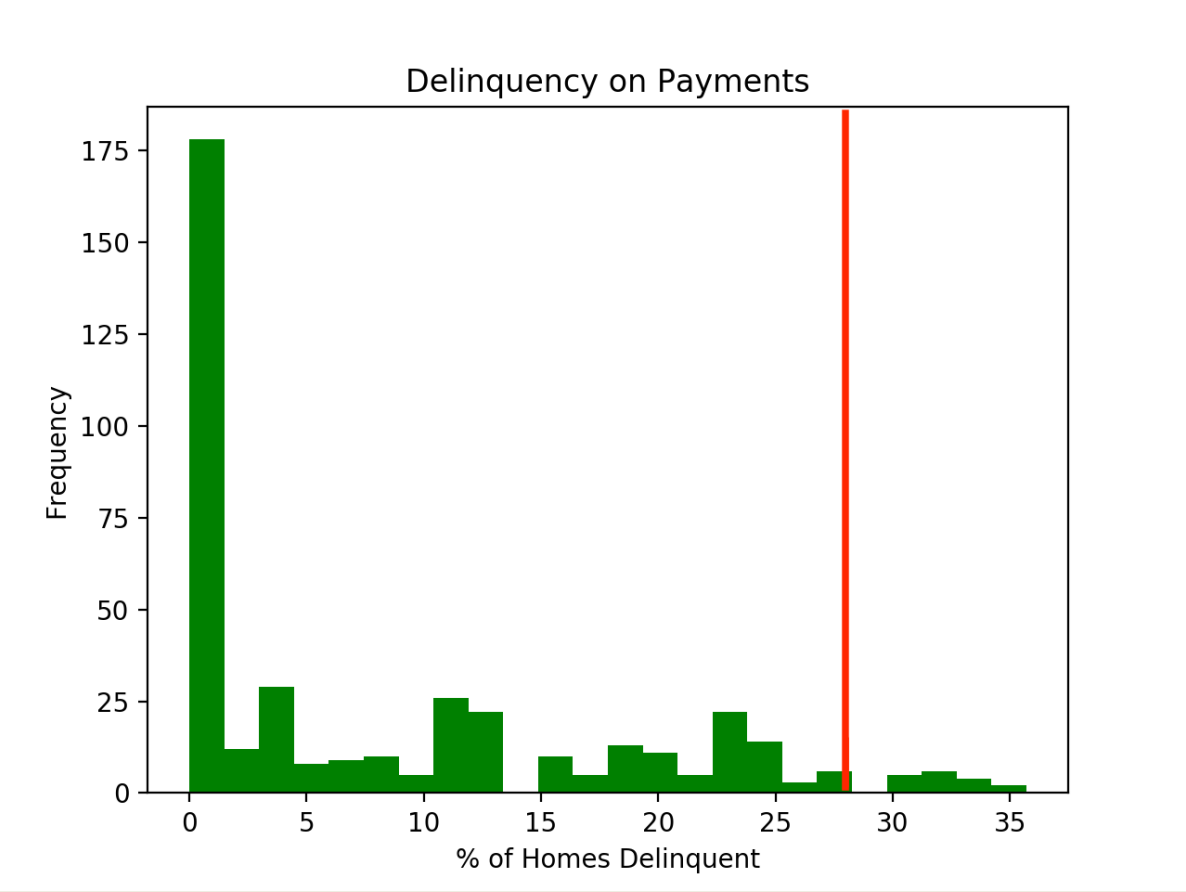
Crime (All Felonies and Grand Larceny)





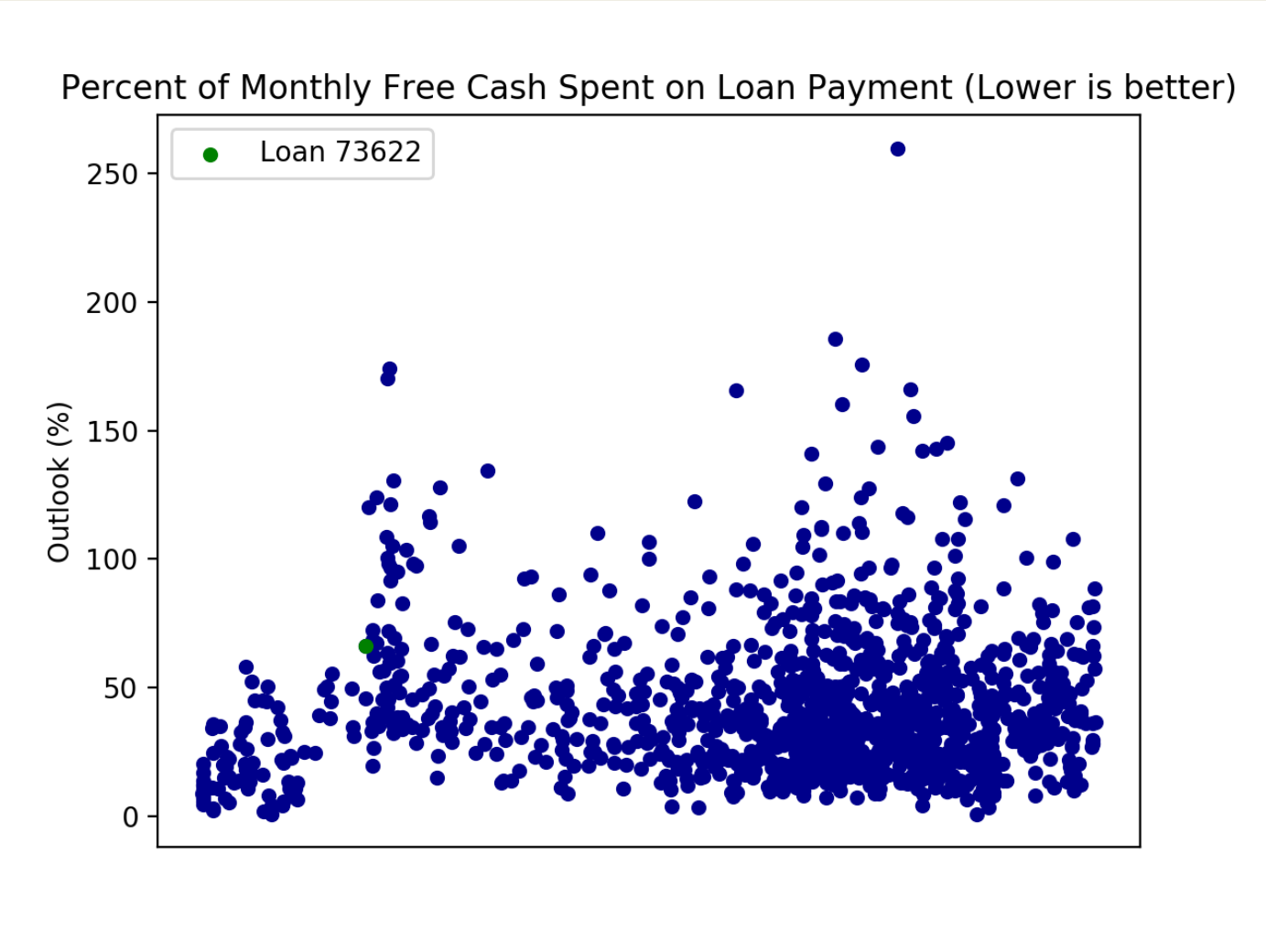
- All Felonies: 503 | >75 percentile
- Grand Larceny: 135 | ~70 percentile
- Theft crimes lead to more property damage/finanical burden

Delinquency on Payments



- Late payment on monthly dues
- 27.7%
  - >75% percentile
- Exposure to risk of default

Percentage of Free Cash on Payments



- Free cash found using median income and expenditure data by ZIP
- Loan's monthly payment based on balance, APR, and term length
- 73622 is at 66.2%
  - About 2/3 of median free cash will be spent on payments
  - Relatively high
  - >75 percentile

Concluding Thoughts

- Due to the previous metrics
  - *73622 is risky*
  - *FICO scores do not reflect real risk*
  - *Concerns regarding unemployment, crime, delinquency, and median free cash*
  - *Pattern of rejection in Eastchester neighborhood: 359878 and 312537 rejected*

Resources

- Python/Scipy
- Pandas documentation
- Investopedia
- Time
- Monthly payment formula:

$$P = \frac{A}{[(1+i)^n - 1]/[n(1+i)^n]}$$

  - *P payment, A balance, i rate, n terms*