# Mining Consumer Complaints

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# Project Description

The Consumer Financial Protection Bureau (CFPB) has collected data for over six years - tracking customer complaints. We strive to find complaints about fraudulent credit or debit card use and link these issues to the Card Company as well as finding trends in common zip codes.

# Prior Work

**Data in Action: Combating Fraud**

One company uses big-data analytics to find grey charges on users' credit cards and debit cards by drawing upon billing dispute data from the web, banks, and the CFPB's open consumer complaint database.

# Data Sets

We are using the *Financial Services Consumer Complaint Database.*

Found at: https://www.data.gov/consumer/

Currently downloaded on Cary's Mac (469 MB)

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Date received | Product | Sub-product | Issue | Sub-issue | Consumer comp | Company public | Company | State | ZIP code | Tags | Consumer consen | Submitted via | Date sent to | Company respon | Timely respo | Consumer di | Complaint ID |
| 2 | 3/12/14 | Mortgage | Other mortgage | Loan modification,collection,foreclosure | | | | M&T BANK COR | MI | 48382 | | N/A | Referral | 3/17/14 | Closed with expl | Yes | No | 759217 |
| 3 | 10/1/16 | Credit reporting | | Incorrect informa | Account status | I have outdated | Company has re | TRANSUNION IN | AL | 352XX | | Consent provided | Web | 10/5/16 | Closed with expl | Yes | No | 2141773 |
| 4 | 10/17/16 | Consumer Loan | Vehicle loan | Managing the loan or lease | | I purchased a new car on XXXX X | | CITIZENS FINAN | PA | 177XX | Older American | Consent provided | Web | 10/20/16 | Closed with expl | Yes | No | 2163100 |
| 5 | 6/8/14 | Credit card | | Bankruptcy | | | | AMERICAN EXPF | ID | 83854 | Older American | N/A | Web | 6/10/14 | Closed with expl | Yes | Yes | 885638 |
| 6 | 9/13/14 | Debt collection | Credit card | Communication t | Frequent or repeated calls | | | CITIBANK, N.A. | VA | 23233 | | N/A | Web | 9/13/14 | Closed with expl | Yes | Yes | 1027760 |
| 7 | 11/13/13 | Mortgage | Conventional ad | Loan servicing, payments, escrow account | | | | U.S. BANCORP | MN | 48322 | | N/A | Phone | 11/20/13 | Closed with mon | Yes | No | 596562 |
| 8 | 6/16/15 | Debt collection | Medical | Improper contact | Contacted employer after aske | Company believ | | California Accou | CA | 92111 | | Consent not provi | Web | 6/19/15 | Closed with expl | Yes | No | 1422680 |
| 9 | 6/15/15 | Credit reporting | | Credit reporting | Inadequate he | An account on | Company choos | Experian Inform | VA | 224XX | | Consent provided | Web | 6/15/15 | Closed with expl | Yes | No | 1420702 |
| 10 | 11/13/15 | Mortgage | Other mortgage | Loan modification,collection,foreclosure | | | Company believ | Aldridge Pite, LL | CA | 93101 | | N/A | Referral | 12/10/15 | Closed with expl | Yes | Yes | 1654890 |
| 11 | 10/21/14 | Mortgage | Conventional fix | Loan modification,collection,foreclosure | | | | OCWEN LOAN S | FL | 32714 | Older American | N/A | Web | 10/21/14 | Closed with expl | Yes | No | 1079567 |
| 12 | 4/14/17 | Mortgage | Other mortgage | Loan modification,collection,foreclosure | | | Company believ | Shellpoint Partn | CA | 90305 | | N/A | Referral | 4/14/17 | Closed with expl | Yes | No | 2436165 |
| 13 | 3/30/12 | Student loan | Non-federal stuc | Repaying your loan | | | | Student Loan Fir | MN | 55428 | | N/A | Web | 7/12/12 | Closed with expl | Yes | No | 42864 |
| 14 | 2/3/16 | Debt collection | Other (i.e. phone | Disclosure verifi | Not given enou | This company refuses to provide | The CBE Group, | TX | 752XX | | Consent provided | Web | 2/3/16 | Closed with expl | Yes | Yes | 1772196 |
| 15 | 1/7/15 | Credit reporting | | Incorrect informa | Account status | | | Experian Inform | NV | 89169 | | N/A | Referral | 1/23/15 | Closed with expl | Yes | Yes | 1184859 |
| 16 | 3/15/13 | Credit card | | Closing/Cancelling account | | | | FIRST NATIONAL | NY | 11732 | | N/A | Referral | 3/18/13 | Closed with expl | Yes | No | 357186 |
| 17 | 7/18/16 | Credit reporting | | Incorrect informa | Account status | | | EQUIFAX, INC. | FL | 33629 | | N/A | Fax | 7/19/16 | Closed with expl | Yes | No | 2017178 |
| 18 | 2/17/16 | Debt collection | Credit card | Improper contact | Talked to a thi | This complaint | Company has re | SQUARETWO FII | NE | 693XX | | Consent provided | Web | 3/4/16 | Closed with expl | Yes | Yes | 1790634 |
| 19 | 11/7/14 | Mortgage | Conventional fix | Loan modification,collection,foreclosure | | | | U.S. BANCORP | MT | 59801 | | N/A | Web | 11/7/14 | Closed with expl | Yes | No | 1107428 |
| 20 | 4/17/15 | Mortgage | FHA mortgage | Application, originator, mortgage broker | | | | WELLS FARGO & | ME | 4032 | | Consent not provi | Web | 4/17/15 | Closed with expl | Yes | No | 1334421 |
| 21 | 3/9/16 | Credit reporting | | Incorrect informa | Information is not mine | Company has re | Experian Inform | CA | 92703 | | N/A | Phone | 3/9/16 | Closed with expl | Yes | No | 1823920 |
| 22 | 2/4/15 | Debt collection | Mortgage | Cont'd attempts | Debt was paid | | | PHH Mortgage S | CA | 92021 | | N/A | Web | 2/10/15 | Closed with expl | Yes | Yes | 1224046 |
| 23 | 3/17/17 | Bank account or | Checking accoun | Making/receiving payments, sending money | | | Company believ | UNITED SERVICE | WI | 54005 | | N/A | Referral | 3/20/17 | Closed with expl | Yes | No | 2393048 |
| 24 | 3/8/12 | Mortgage | Other mortgage | Loan servicing, payments, escrow account | | | | Ditech Financial | CA | 95361 | | N/A | Web | 3/23/12 | Closed without r | Yes | No | 32412 |
| 25 | 3/27/13 | Mortgage | Conventional fix | Loan servicing, payments, escrow account | | | | NATIONSTAR M | WA | 98203 | | N/A | Web | 3/27/13 | Closed with expl | Yes | No | 366548 |
| 26 | 2/25/14 | Debt collection | Other (i.e. phone | Cont'd attempts | Debt is not mine | | | Navient Solution | RI | 2906 | | N/A | Web | 2/24/14 | Cont'd attempts | Yes | Yes | 730165 |
| 27 | 11/18/16 | Mortgage | Conventional fix | Settlement process and costs | | Started the refinance of home m | AMERICAN NEIG | NJ | 088XX | | Consent provided | Web | 11/21/16 | Closed with mon | No | No | 2216206 |
| 28 | 7/16/15 | Mortgage | Conventional fix | Application, originator, mortgag | In XXXX, I and my ex-husband ap | HSBC NORTH AN | IL | 625XX | | Consent provided | Web | 7/16/15 | Closed with expl | Yes | No | 1472017 |
| 29 | 11/3/15 | Debt collection | Medical | Disclosure verifi | Right to dispute notice not rece | Company choos | Revenue Recove | FL | 34105 | | N/A | Postal mail | 11/4/15 | Closed with expl | Yes | Yes | 1637385 |
| 30 | 8/9/16 | Credit reporting | | Credit reporting | Problem with s | I have disputed several accounts | EQUIFAX, INC. | MS | 390XX | | Consent provided | Web | 8/9/16 | Closed with expl | Yes | Yes | 2051099 |
| 31 | 4/27/16 | Mortgage | Conventional fix | Loan servicing, payments, escrov | Mortgage was | | NATIONSTAR M | CA | 954XX | | Consent provided | Web | 4/27/16 | Closed with expl | Yes | Yes | 1898476 |
| 32 | 9/17/14 | Credit card | | Delinquent account | | | | WELLS FARGO & | OH | 43062 | Servicemember | N/A | Web | 9/17/14 | Closed with expl | Yes | No | 1033355 |
| 33 | 10/11/16 | Mortgage | VA mortgage | Loan servicing, payments, escrow account | | | Company has re | FREEDOM MOR | GA | 31201 | | N/A | Postal mail | 10/13/16 | Closed with expl | Yes | No | 2155899 |

# Proposed Work

Data Cleaning: Quotations within the CSV are inconsistent and will need to be synchronized throughout the data set. Also, blank cells will need to have 0s or empty strings for consistency.

Data Reduction: There are a few attributes that do not serve a purpose for our specific intent.

# List of Tools

Most Likely: Python, matplotlib (numpy, Pandas)

Hopeful: WEKA Data Mining Software

# Evaluation

Our results will be evaluated with cross validation. If we are able to use WEKA, there are built in evaluation tools to streamline the process. If we use Python, there are supporting libraries and methods to do the same.