

CITY OF NEW YORK

Employee Salary Analysis

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NYC OpenData

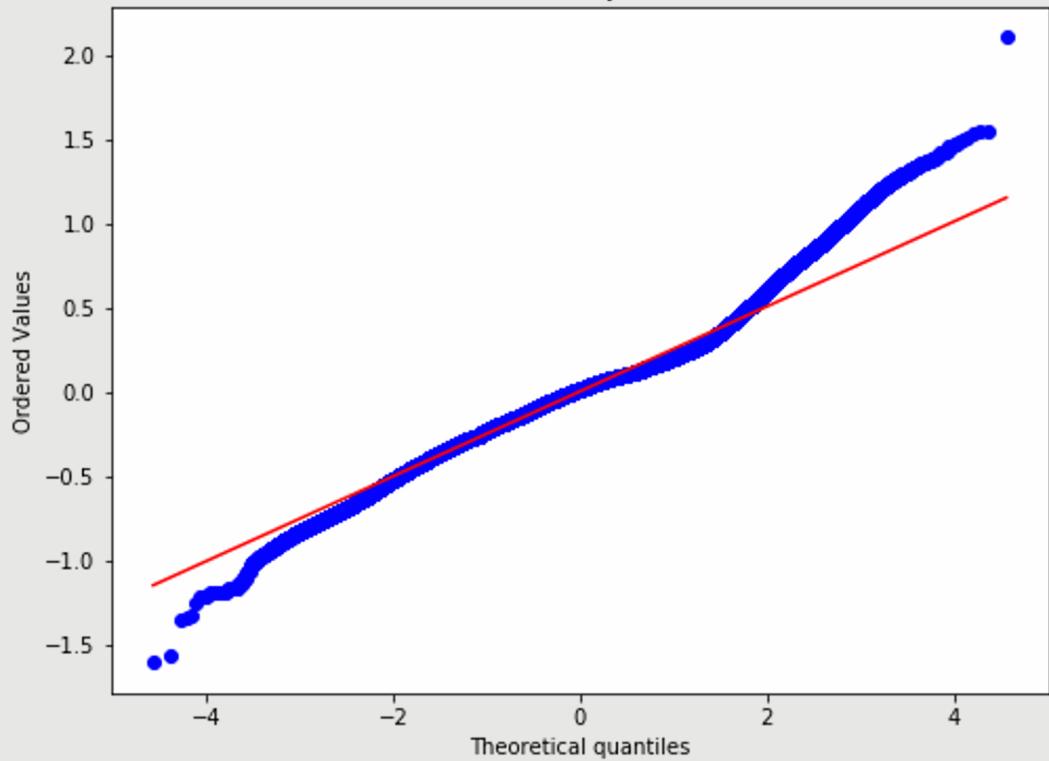
What factors contribute towards a higher salary?

3,333,080
positions listed

2015-2019
positions per FY

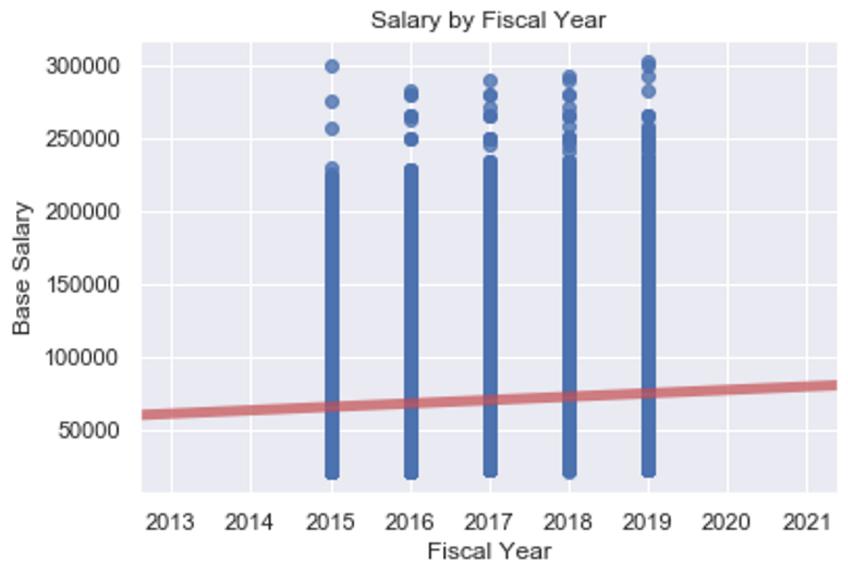
Evaluation Metric:
Base Salary

Probability Plot



\$10,000

Increase in average city
employee salary
over the past 5 years



Data Cleaning

- Base salary btwn 20-330k
- Pay Basis: Annual
- 4 major boroughs
- Actively working

MAINTAIN

- Fiscal Year
- Pay Basis
- Regular Hours
- OT Hours
- Total OT Paid

TRANSFORM

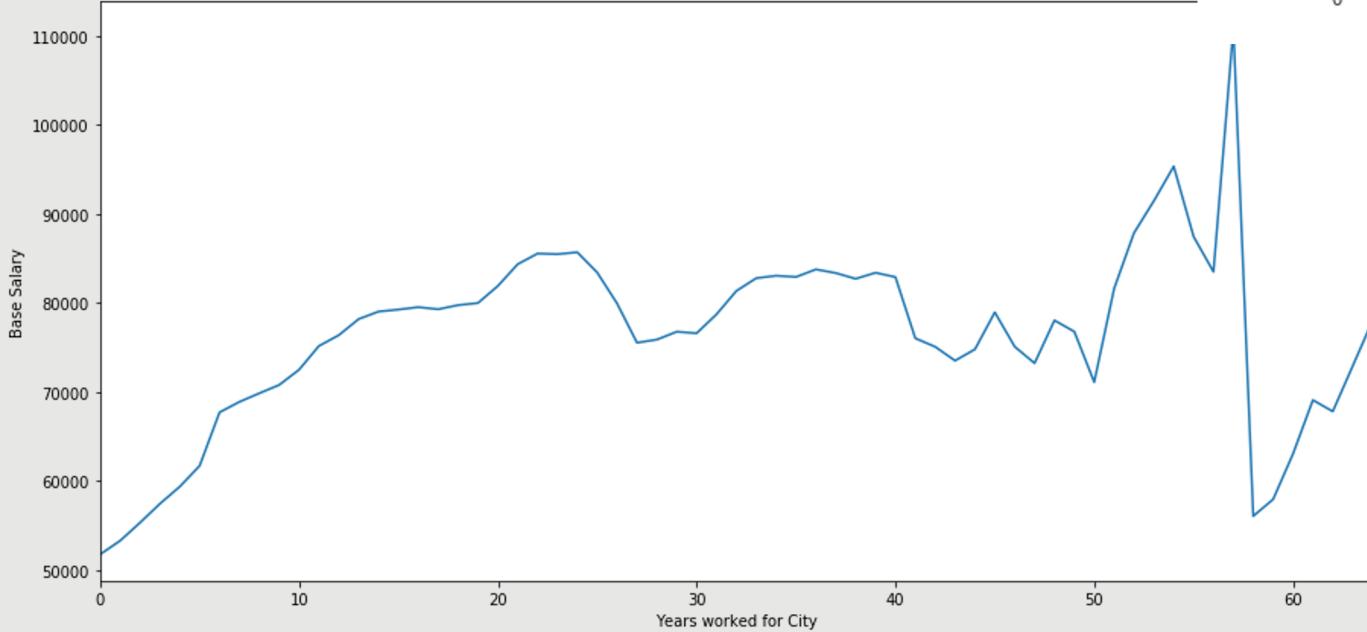
- **Dummy Variable**
 - Agency Name
 - Work Location Borough
- **New Variable**
 - Agency Start Date (to years worked)

DISCARD

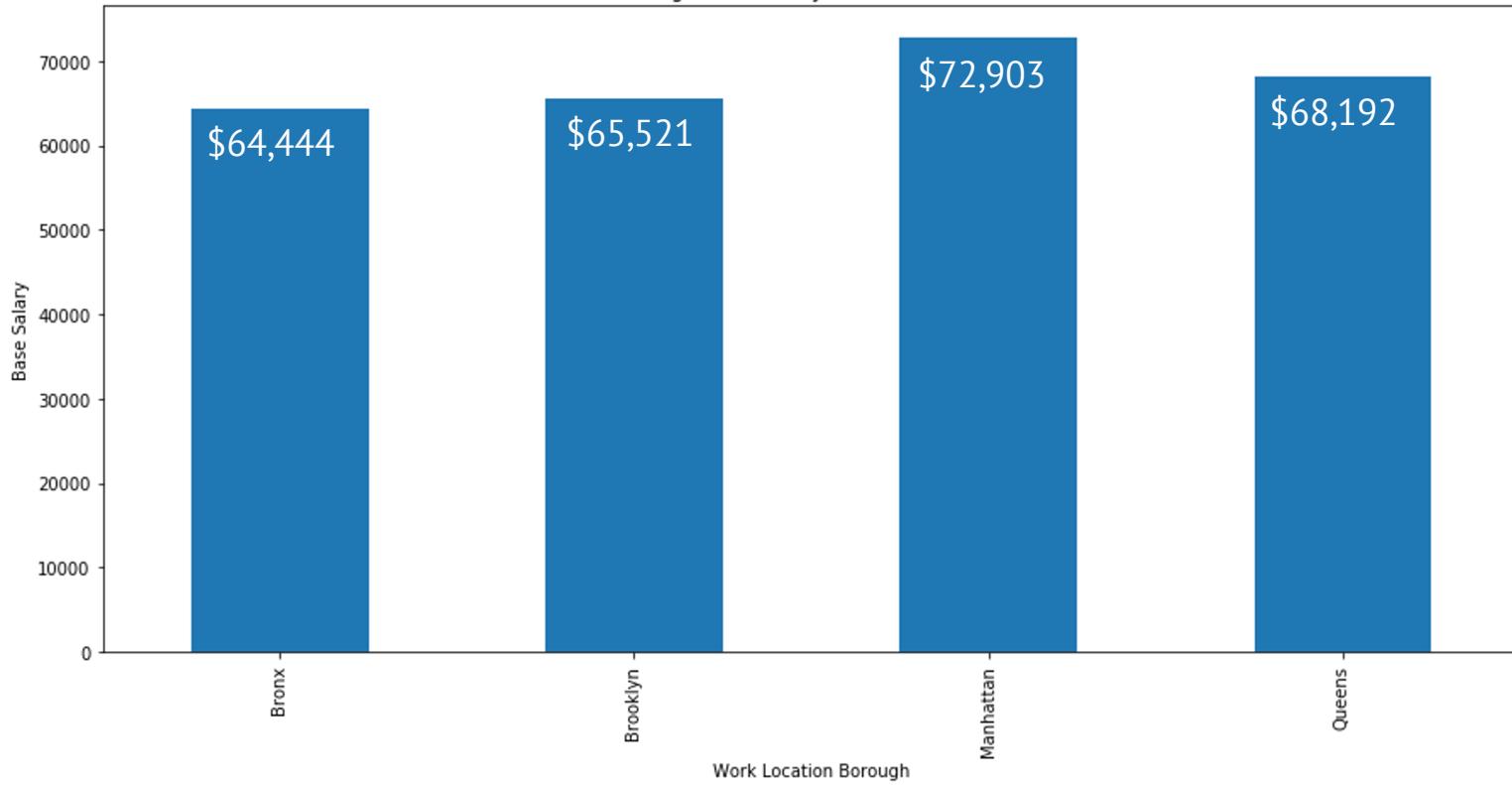
- **Irrelevant to Predictor**
 - Last Name, First Name, Mid Init
 - Payroll Number
 - Leave Status (Active only)
- **High Variability**
 - Title Description
- **Variable Overlap**
 - Regular Gross Paid (with Base Salary)
- **High Uncertainty**
 - Total Other Pay

Exploratory Data Analysis

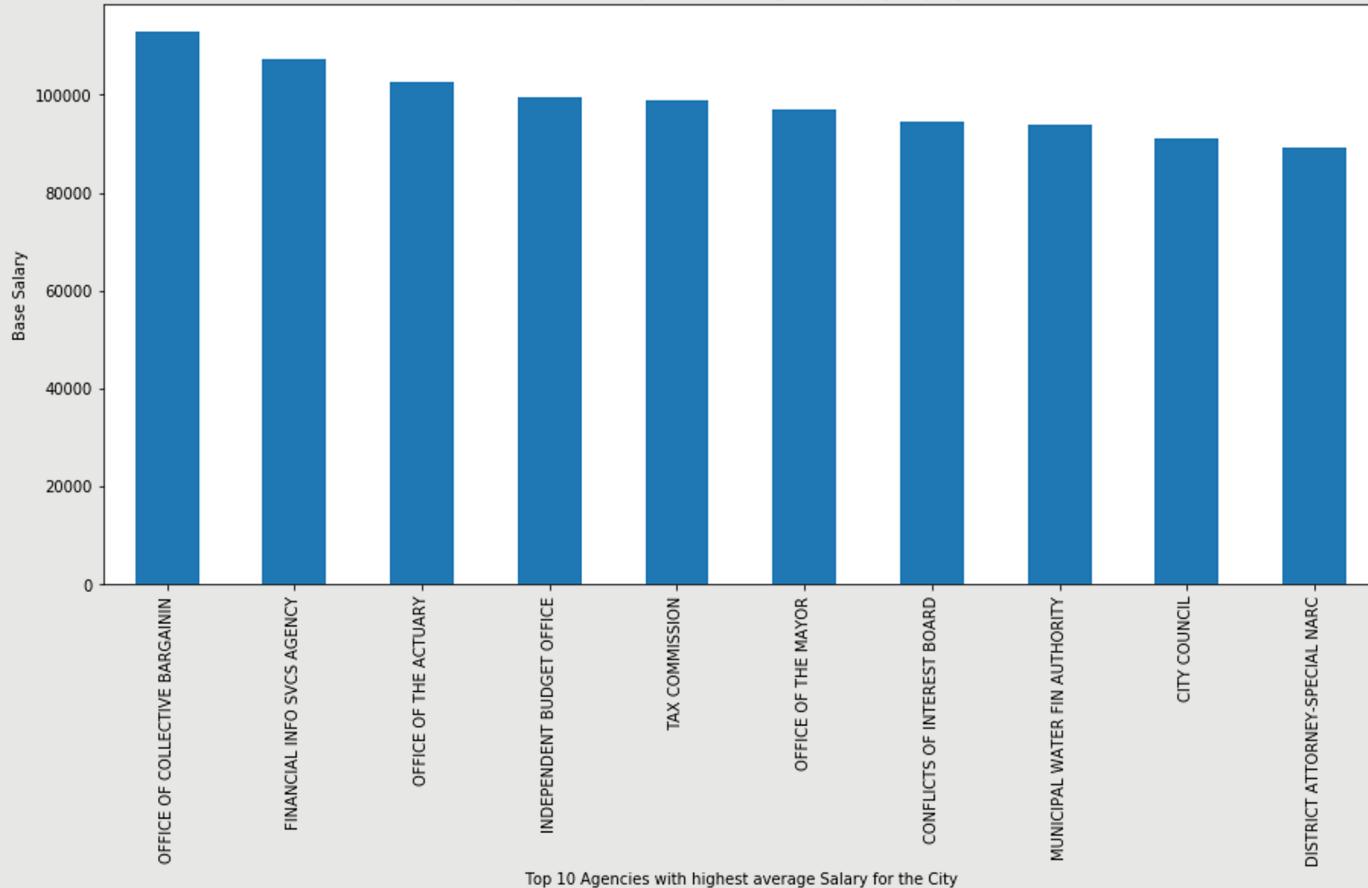
Average Base Salary vs Years Worked for City



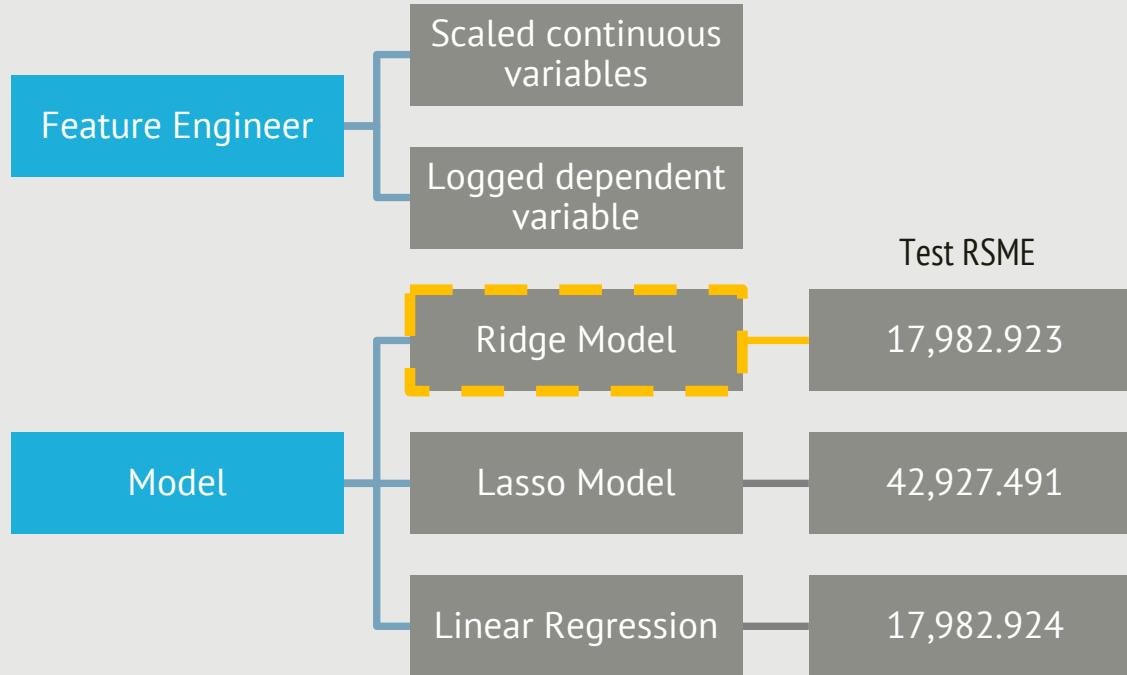
Average Base Salary vs. Work Location



Average Base Salary for Top 10 Highest Paying City Agencies

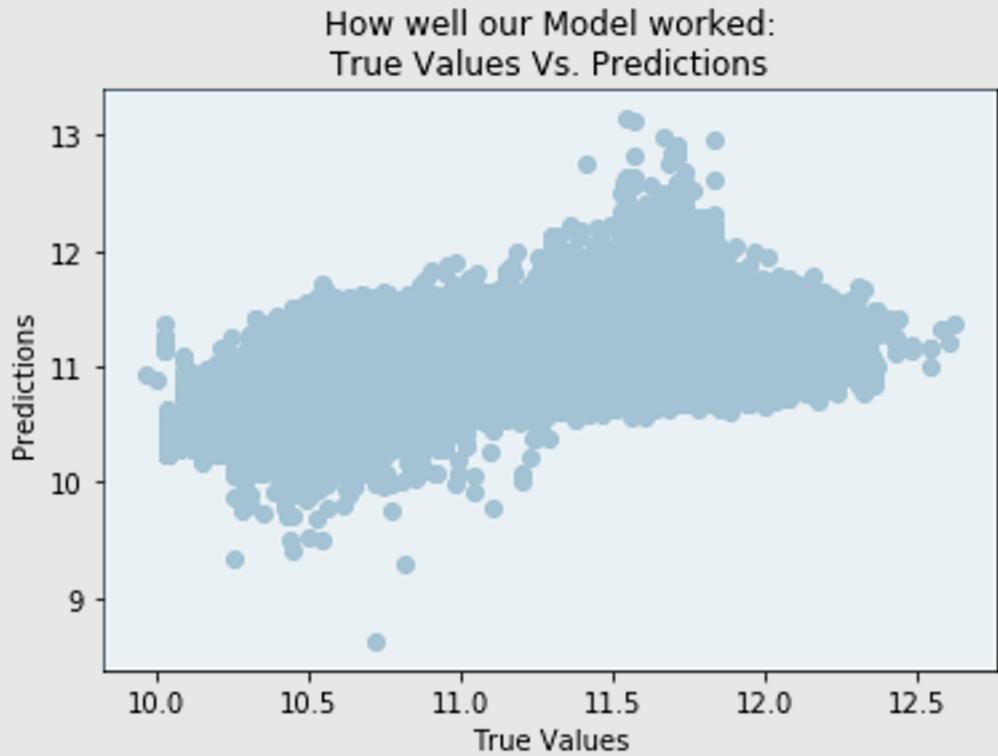


Feature Engineering & Selection



Ridge Model

Summary Statistic	QTY
Train RSME	71,567.79
Test RSME	17,982.923
Alpha	.01
Model STD	.634



Formula for Success

1. Work in a Manhattan borough office
2. Spend up to 20 years in the job (consider pension)
3. Select a higher paying Agency

Top 5 NYC Agencies by Avg Salary	Average Salary
OFFICE OF COLLECTIVE BARGAINING	\$112,844
FINANCIAL INFO SVCS AGENCY	\$107,143
OFFICE OF THE ACTUARY	\$102,629
INDEPENDENT BUDGET OFFICE	\$99,621
TAX COMMISSION	\$98,758



Thank you