



# Employee Satisfaction Project

Fall 22, Bootcamp - The Erdős Institute

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## 2021 Federal Employee Viewpoint Survey

~ 180 000 respondents

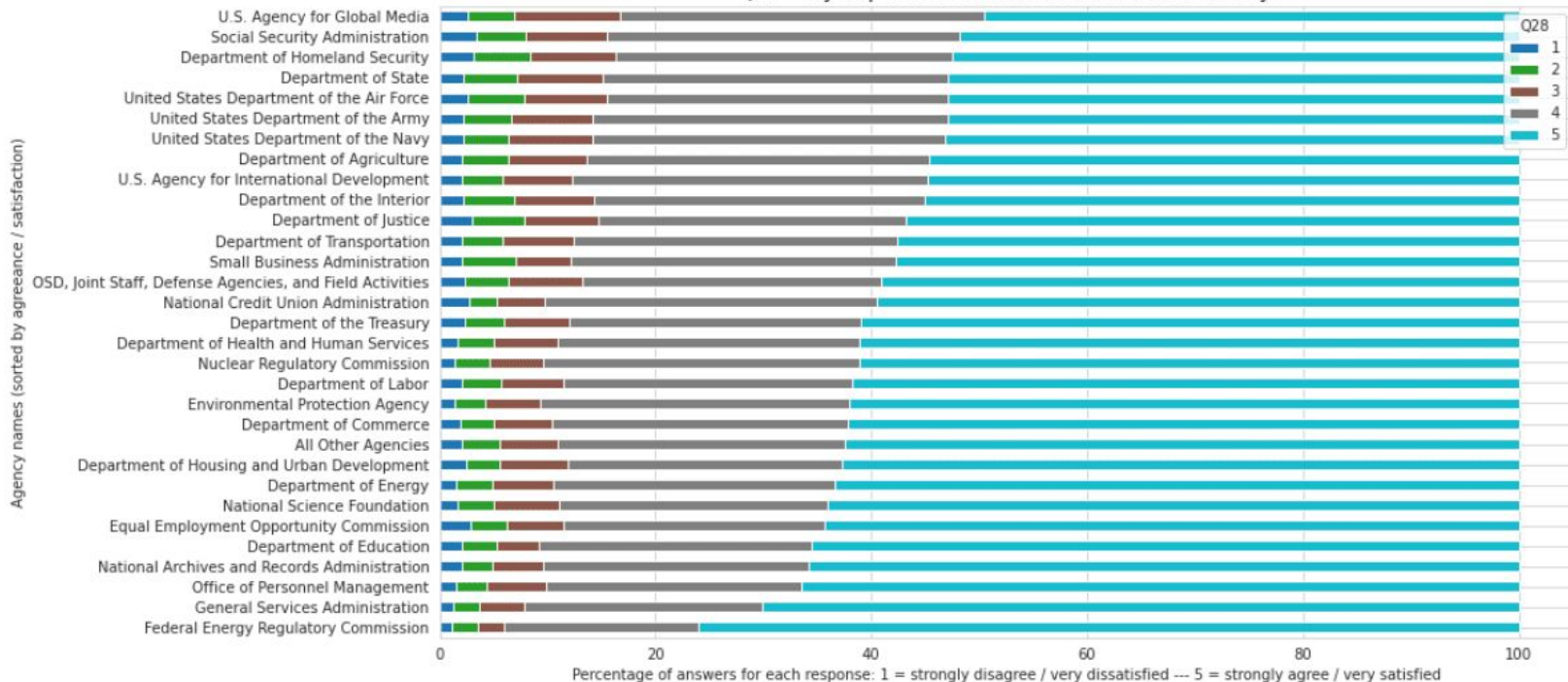
- 31 federal agencies
    - ◆ Dep. Homeland Security, Agriculture, Labor, ...
    - ◆ National Science Foundation
    - ◆ Army, Navy, Air Force
  
  - 50+ likert-type questions:
    - ◆ Work environment
    - ◆ Relationship with supervisors
    - ◆ Goal achievements within agencies
  
  - 9 demographic variables:
    - ◆ Individuals with disability
    - ◆ Age groups
    - ◆ Supervisory status
    - ◆ Intention to leave the organization
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# EDA

select Q28 - My supervisor listens

Run Interact

### Q28 - My supervisor listens to what I have to say.



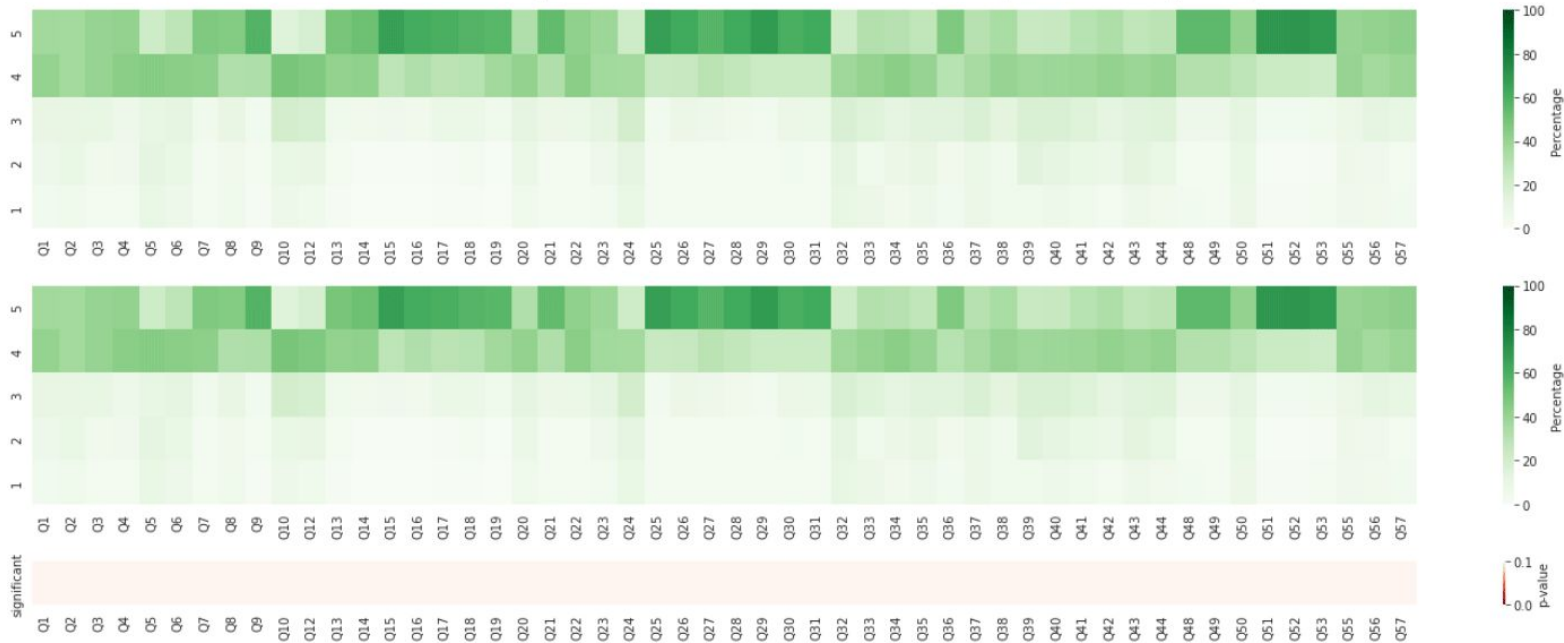
# EDA

select1 All Other Agencies

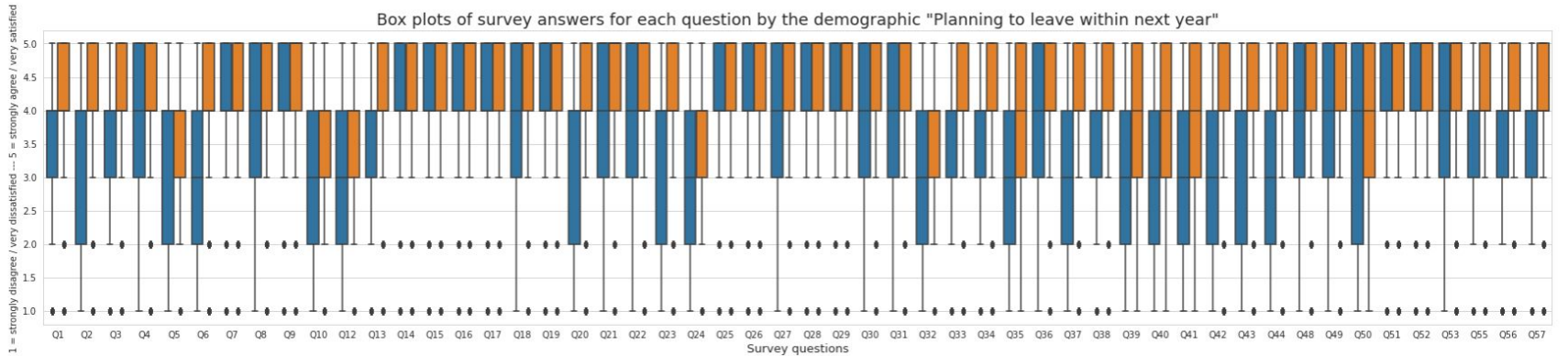
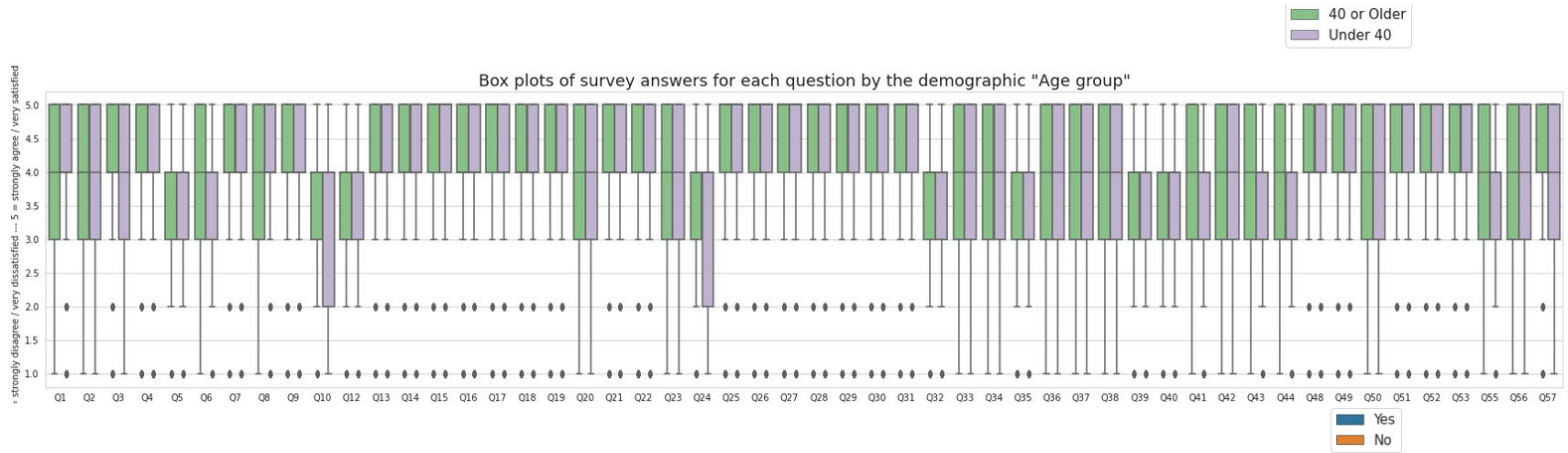
select2 All Other Agencies

Run Interact

Percentage of survey answers for All Other Agencies (top) vs. All Other Agencies (bottom).  
Significance of different medians with Mann-Whitney test at 5% level (p-value).

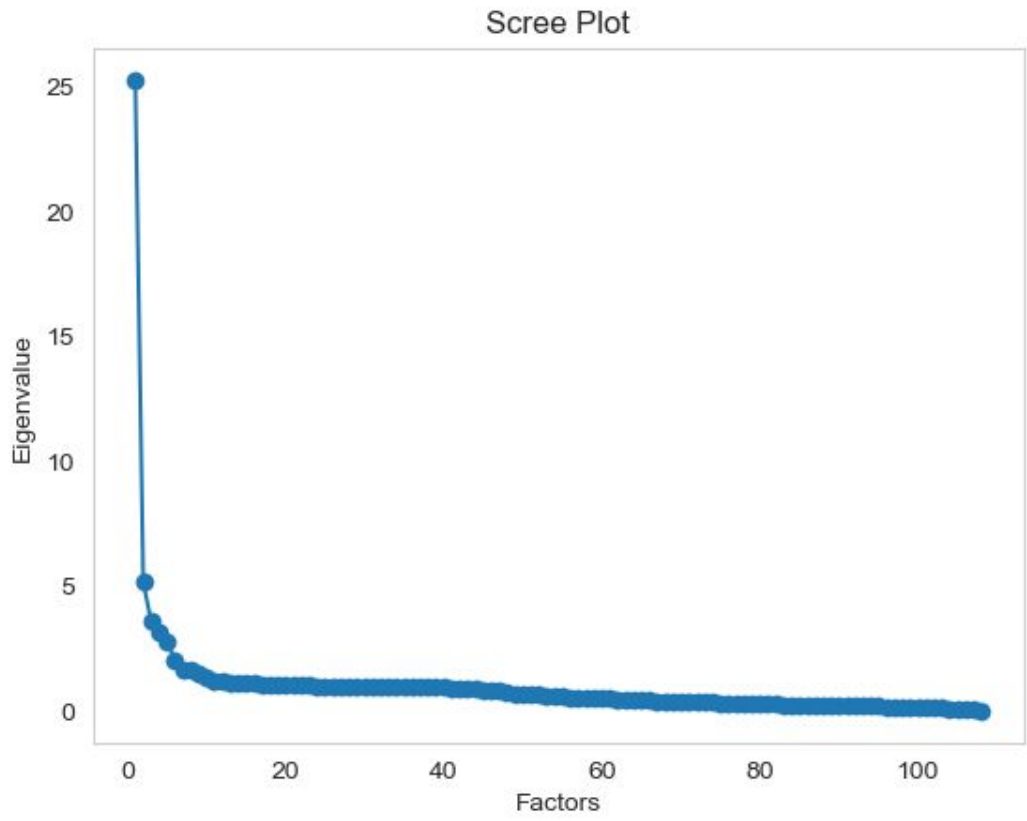


# EDA



Can we predict whether an employee is planning to leave based on their other answers?

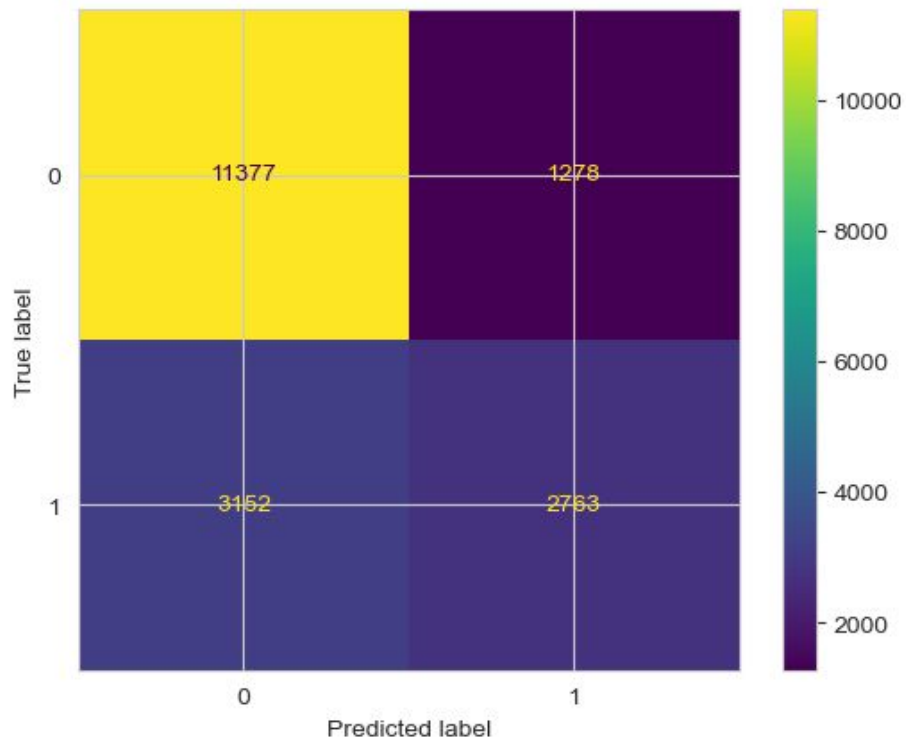
— FA



FA



## — RESULT



→ Accuracy:

0.7614431879375336

→ F1 Score:

0.7472143960618268

→ F1 Score (Naive Model):

0.48315295078619563



## — RESULT

	<b>feature</b>	<b>importance_score</b>
<b>5</b>	Q42	0.275219
<b>7</b>	Q44	0.137532
<b>3</b>	Q23	0.091168
<b>2</b>	Q6	0.039242
<b>1</b>	Q3	0.035075
<b>6</b>	Q43	0.019787
<b>4</b>	Q39	0.017367
<b>9</b>	DMIL_No Prior Military Service	0.015933
<b>0</b>	Q1	0.014468
<b>8</b>	DFEDTEN_C	0.012260

→ Q23, Q42-44:

Satisfaction with work and pay

→ Q3, Q6:

Feeling of personal accomplishment

→ Q39:

Involvement in the work

→ Q1:

Self improvement

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# Key takeaways!

1. High levels of satisfaction reported.
  2. No significant difference in demographics except intention to leave.
  3. After benefits and job security, employees look for rewarding jobs aligned with their goals.
  4. More specific analysis can be easily created from the project.
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