NYC Jobs Analysis

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METRO EXCLUSIVE

Eric Adams personally recruiting on the streets to help fill thousands of vacant NYC jobs

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Why NYC jobs dataset?

- City agencies having thousands of vacancies
- Working towards social causes
- Looking for factors related to the salary
- Useful for students and unemployed individuals equally

Process summary

- ❏ Obtained NYC Jobs dataset
- ❏ Cleaned up the duplicates
- ❏ Narrowed down datasets
- ❏ Analyzed statistically
- ❏ Performed visualization
- ❏ Evaluate the result
- ❏ Made a conclusion

Getting Familiar With The Data

Our first focus was getting to understand the data set and what it needed.

- Downloaded the data to Excel, performed a preliminary cleanup to see where we hit any pain points
- What kind of information/inferences could we gather from the dataset?
- Who would this data serve?
- Which fields would we need and which should be removed?

Cleaning data - Our Approach

Having an understanding of what we wanted to accomplish, we then moved to Jupyter Notebook

- Imported the data via API
- Removed columns that did not serve the purpose of our analysis or contained inconsistent data
    - I.e job posting dates, descriptions, requirements
- Converting fields to appropriate data type
    - I.e Salary was imported as string and converted to float during the cleanup process
- Order matters!

Cleaning data - First obstacle

Show me the money!

- Our first round of statistical analysis alerted us to an issue with the starting and max salary fields
- Different types of positions reported their salaries in different methods
    - Hourly postings provided the min/max pay by the hour (ex: 15 - 18)
    - Daily postings provided the min/max pay by the day (ex: 500 - 700)
    - Annual postings provided the min/max salary for the year (ex: 70,000 - 75,000)
- Normalized the salary fields into new fields:
    - Created a function with ELIF statements that would take hourly/daily salaries and convert into annual salaries assuming 35hrs/week and 48 weeks

Cleaning data - Second obstacle

Needle in a haystack!

- 100+ Job categories, limiting traceability
- Re-visited the metadata to find methods to compartmentalize the data set
- Hit the bullseye, when we consolidated over 3000 job openings into 12 compartments.

Compartmentalization:

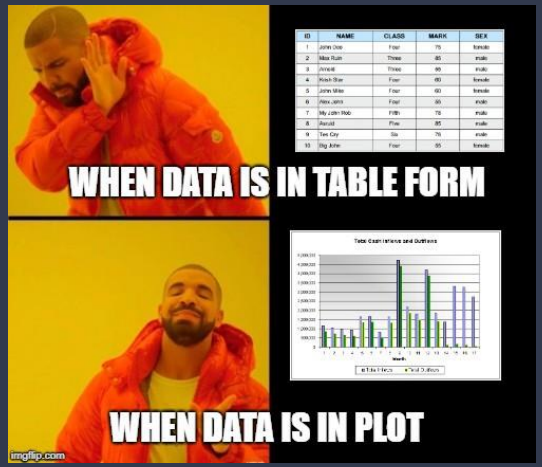
- Used Decision Structure to trace similar job categories and bringing them under one job category.
- As such, ‘Health Policy, Research & Analysis’ and ‘Health Public Safety, Inspections, & Enforcement’ was compartmentalized as ‘Health”

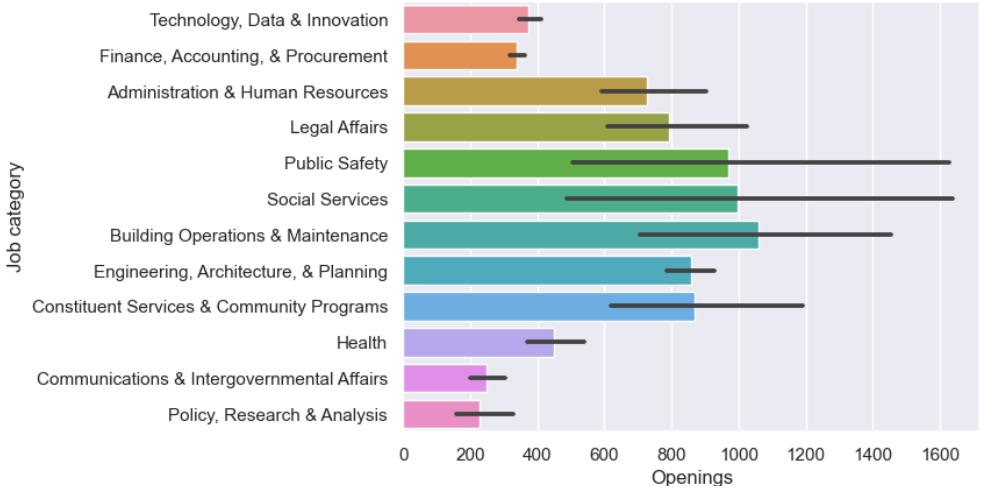
Information about your cleaned data

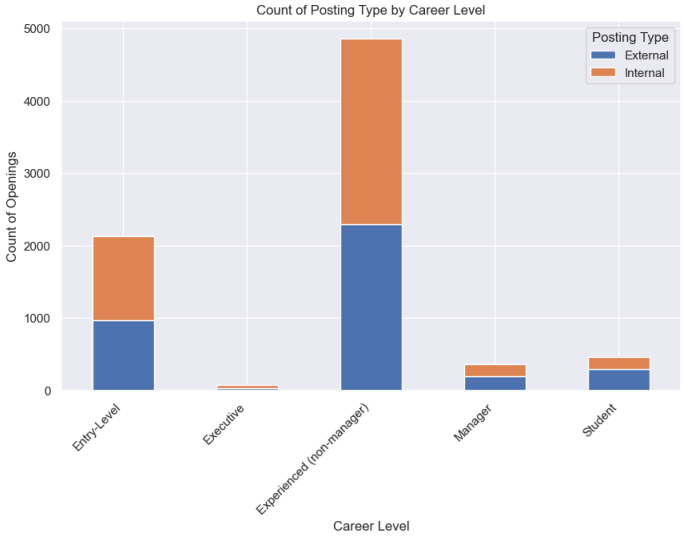
- Purpose of the data: The data was intended for use by professionals interested in entering the field of NYC.
- Importance of knowing the job market: Knowing which jobs are in demand is crucial for making informed career decisions.
- Risk vs Reward: Professionals need to weigh the risks and rewards of entering a particular field.
- Salary Expectations: Determination of potential salary based on the professionals field and career level.

Key Findings

- There is an abundance of openings in Public safety, Social Services and Building Operations
- When looking for a job, the amount of internal posting outnumber the external, meaning companies would opt to hire within the company.



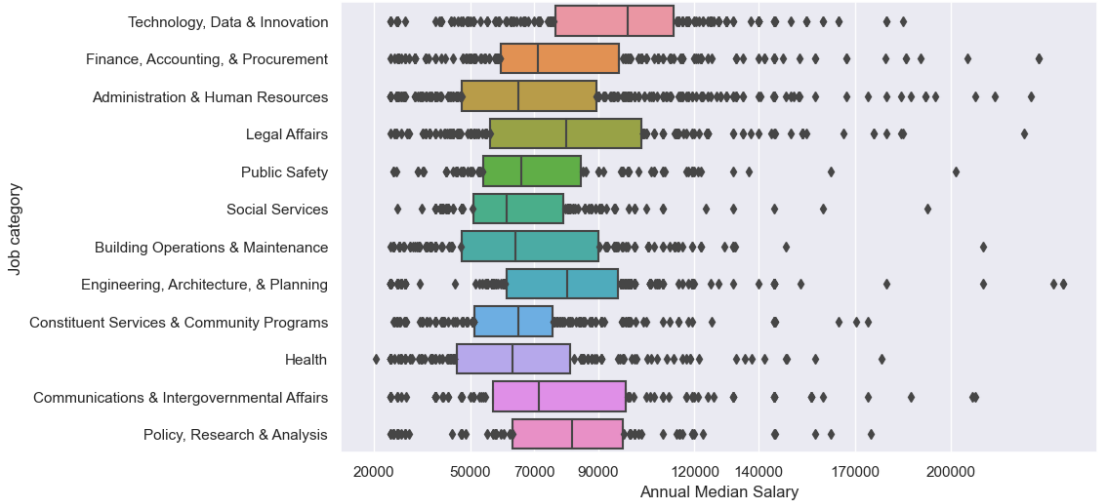


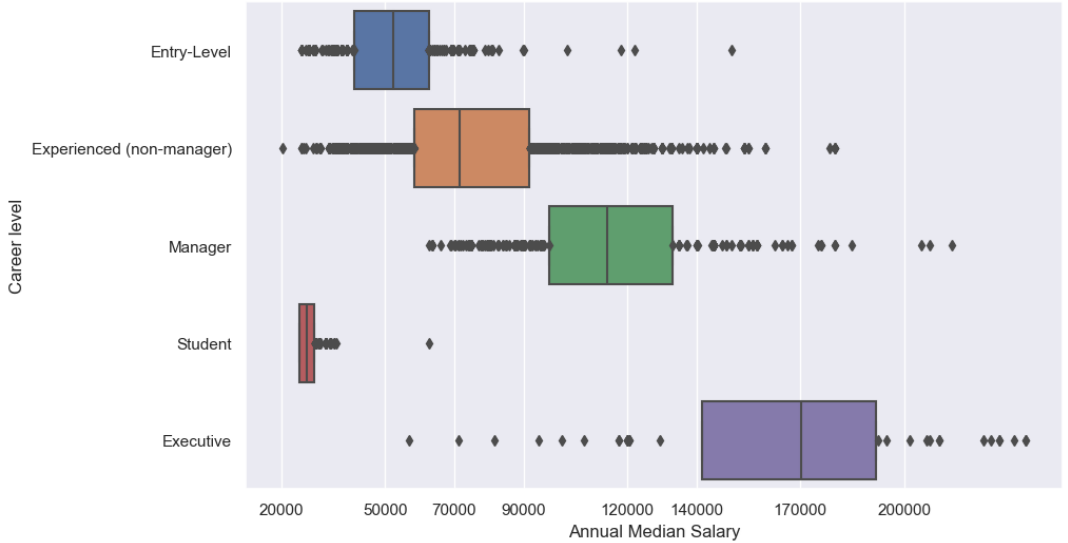


Key Findings

- According to our data, NYC general medium salary across the categories can be around $80,000
- Unsurprisingly Technology, Data and Innovation has the highest Annual Median Salary at about $100,000 and $110,000 at the upper quartile
- Despite leading, there a number of categories that can potentially earn more at presumably the executive level

- Annual Median Salary for Career Level
  - Student: $35,000
  - Entry Level: $55,000
  - Experienced: $72,000
  - Manager: $115,000
  - Executive: $170,000





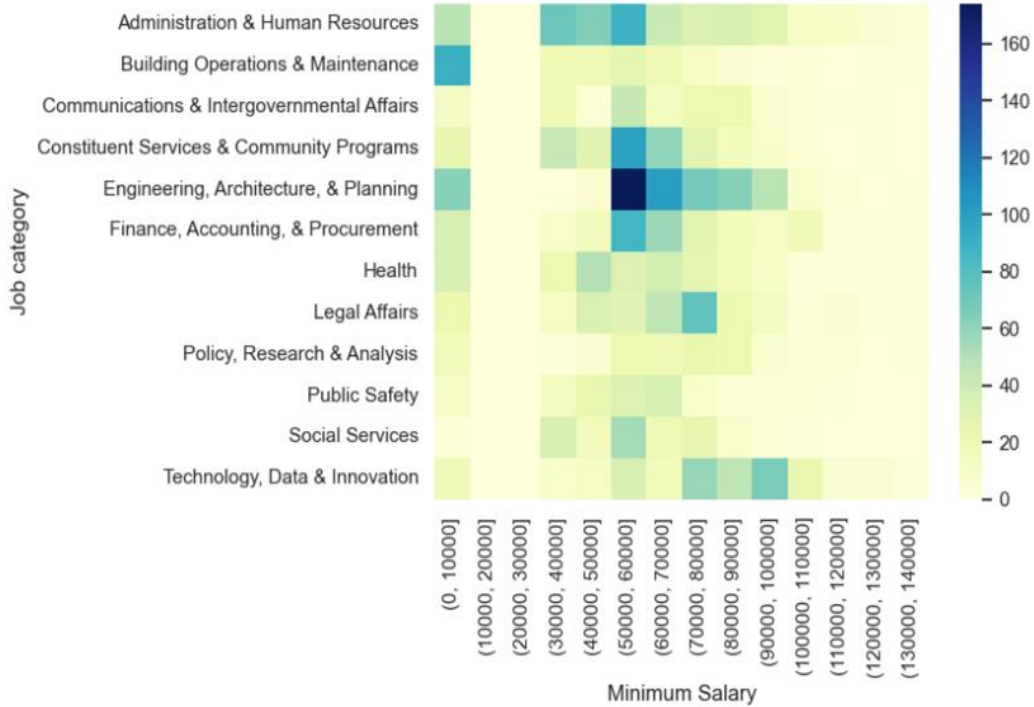
Key Findings

- Number of Job openings :

Highest - “Engineering, Architecture & Planning”
Lowest- “Policy, Research & Analysis”

- ‘Technology, Data & Innovation’ has a high number of well-paying job openings.
- Job seekers should focus on ‘Engineering, Architecture & Planning’ for more opportunities, and consider ‘Technology, Data & Innovation’ for higher-paying jobs.

Job Openings by Job Category and Salary Range

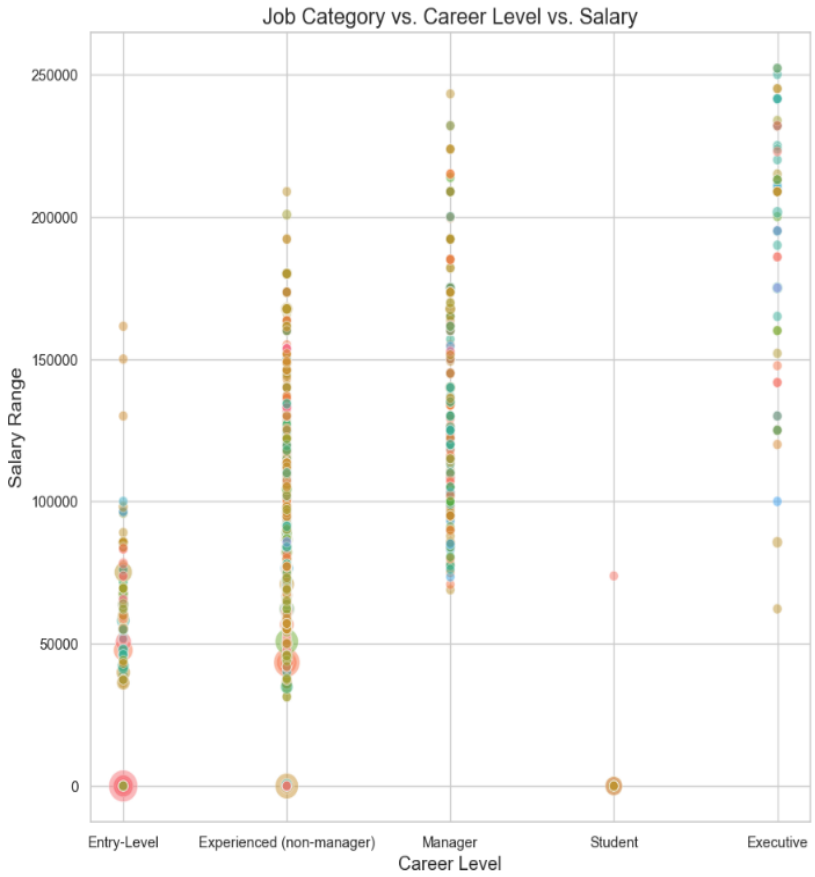


Key Findings

dots represents color-coded based on the agency

size of the dots represents the number of job openings

Identifying agencies :
This graph can help job seekers target their search to agencies that have job openings in their desired salary range.



Future Work

Where can this project be expanded?

- One future expansion is integrating a dataset on NYC cost of living to analyze whether our job market is keeping up with the rising cost of living
- How does the NYC job market compare to other major cities? Incorporating the job datasets from 2 other cities and their cost of living may provide some valuable information
- Looking for data on how many NYC workers are commuters that live in neighboring states/upstate
- Working on developing a code, when compiled would act as a search engine that displays all the details for anyone, who was informed by the analysis and wishes to apply for a job.

References

https://data.cityofnewyork.us/City-Government/NYC-Jobs/kpav-sd4t

https://nypost.com/2023/04/30/eric-adams-personally-recruiting-on-the-streets-to-fill-vacant-nyc-jobs/

print(“Thank you!”)