



# Stack overflow developer survey analysis

Uladzislau Shvoran

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# OUTLINE

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- Results
  - Compensation analysis
  - Visualization – Charts
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- Discussion
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# EXECUTIVE SUMMARY

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- **The aim of the analysis:** determine key factors of developers work
- **Purposes of the analysis:**
  - Determine factors affecting developers compensation: age, work hours, country, gender, race, education
  - Determine programming language trends.
  - Determine DataBases trends.
  - Determine Platforms and Web frames trends.

# INTRODUCTION

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- The report analyses Stack overflow developer survey 2019 so as to retrieve key factors in developer job.
- The report is designed for potential job seekers helping them to understand factors affecting compensation and current IT market and for ones interested in developers market.
- After reading compensation factors and markets trends will be retrieved.

# METHODOLOGY

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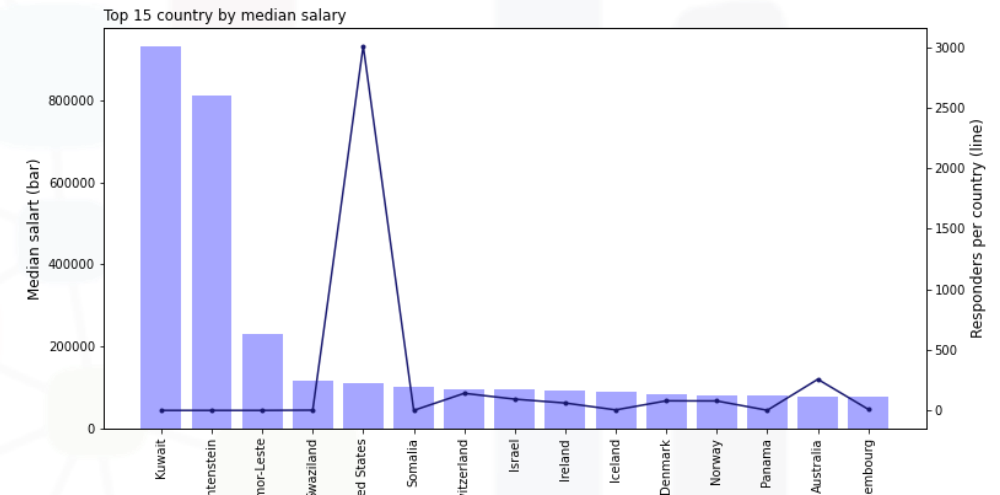
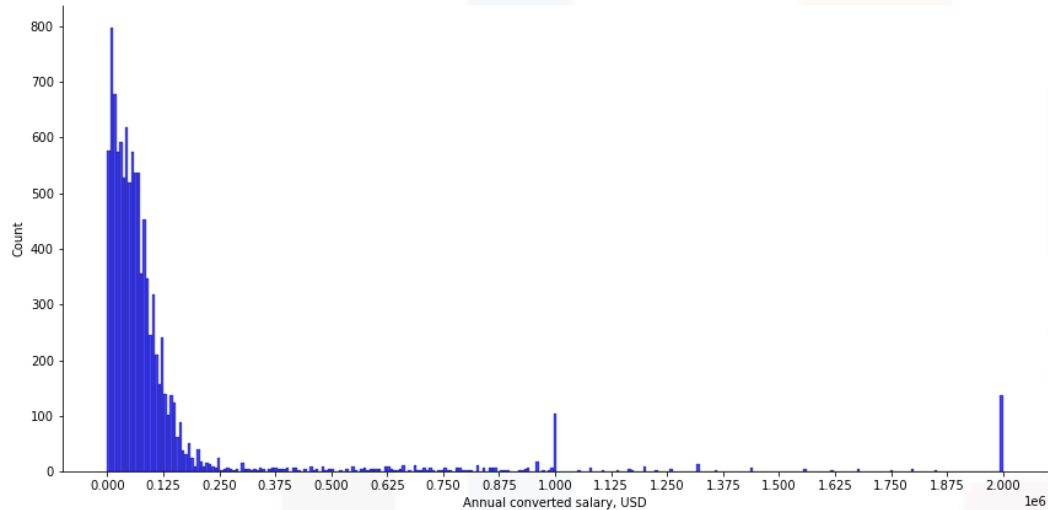
- The Dataset used in the analysis is a modified dataset of stack-overflow-developer-survey-2019
  - Dataset link - [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m2\\_survey\\_data.csv](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m2_survey_data.csv)
- Duplicates, missing values were removed during data preparation, data were normalized with subsequent visualization

# RESULTS

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# Compensation analysis



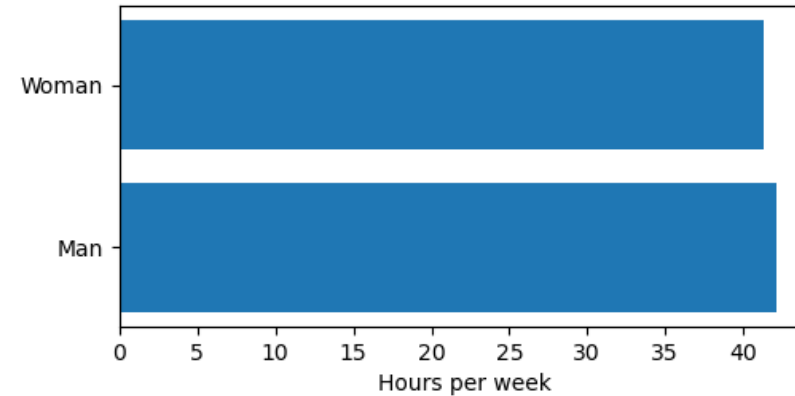
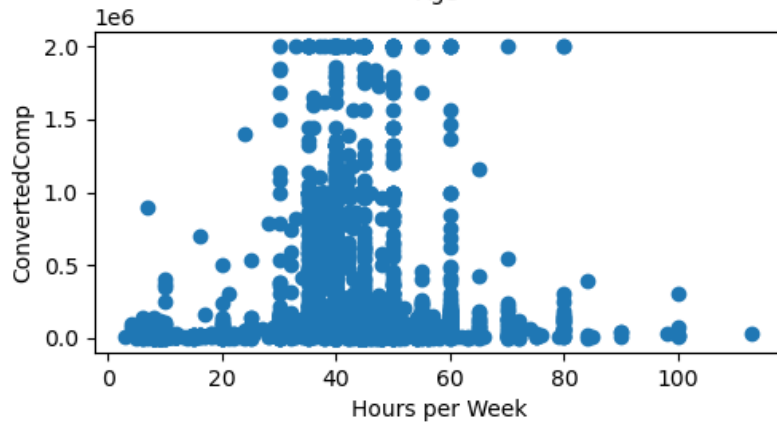
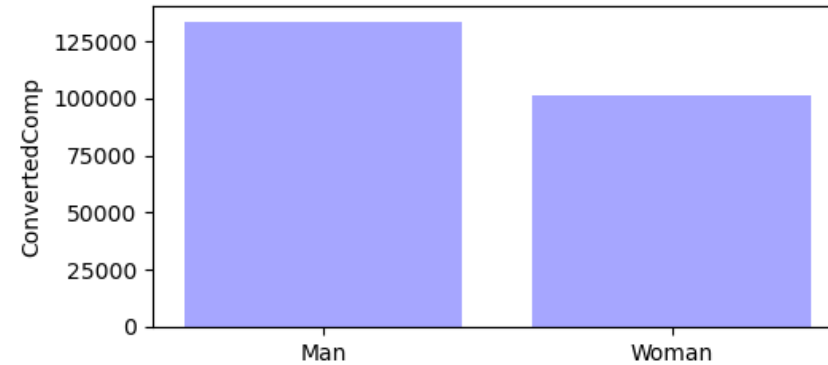
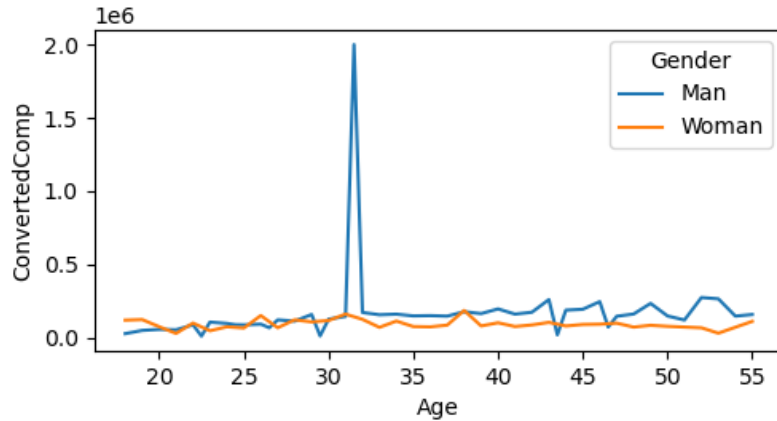
## Findings

- Median comp. - 57,775 usd.
- Mean comp. – 131,596 usd.
- Std. – 294,786
- Many outliers in the data
- the largest number of developers – USA (3000)

## Implications

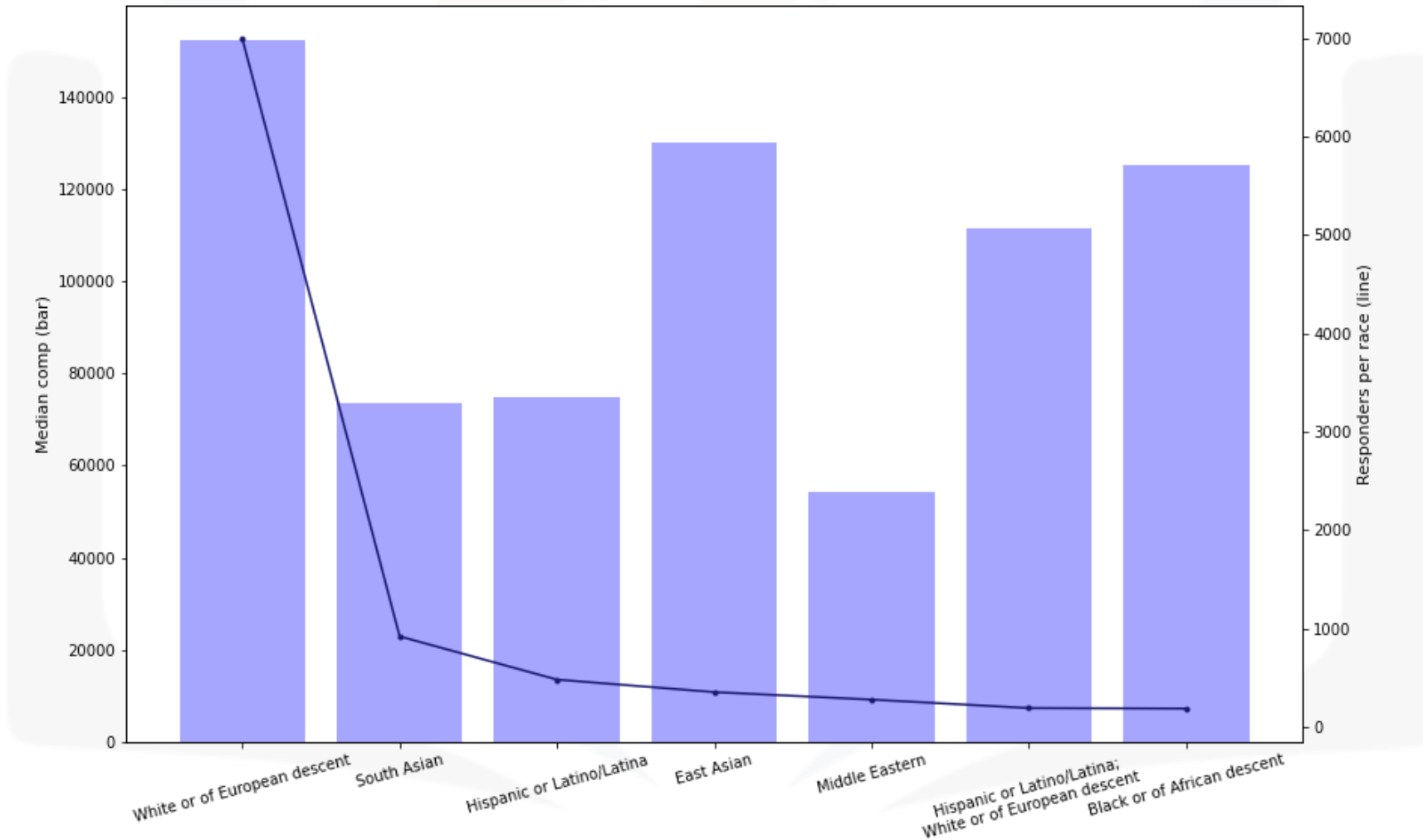
- Many countries with high comp. but with a very low number of developers
- Countries with high number of developers (USA, UK) but moderate comp

# Compensation-Age-Gender

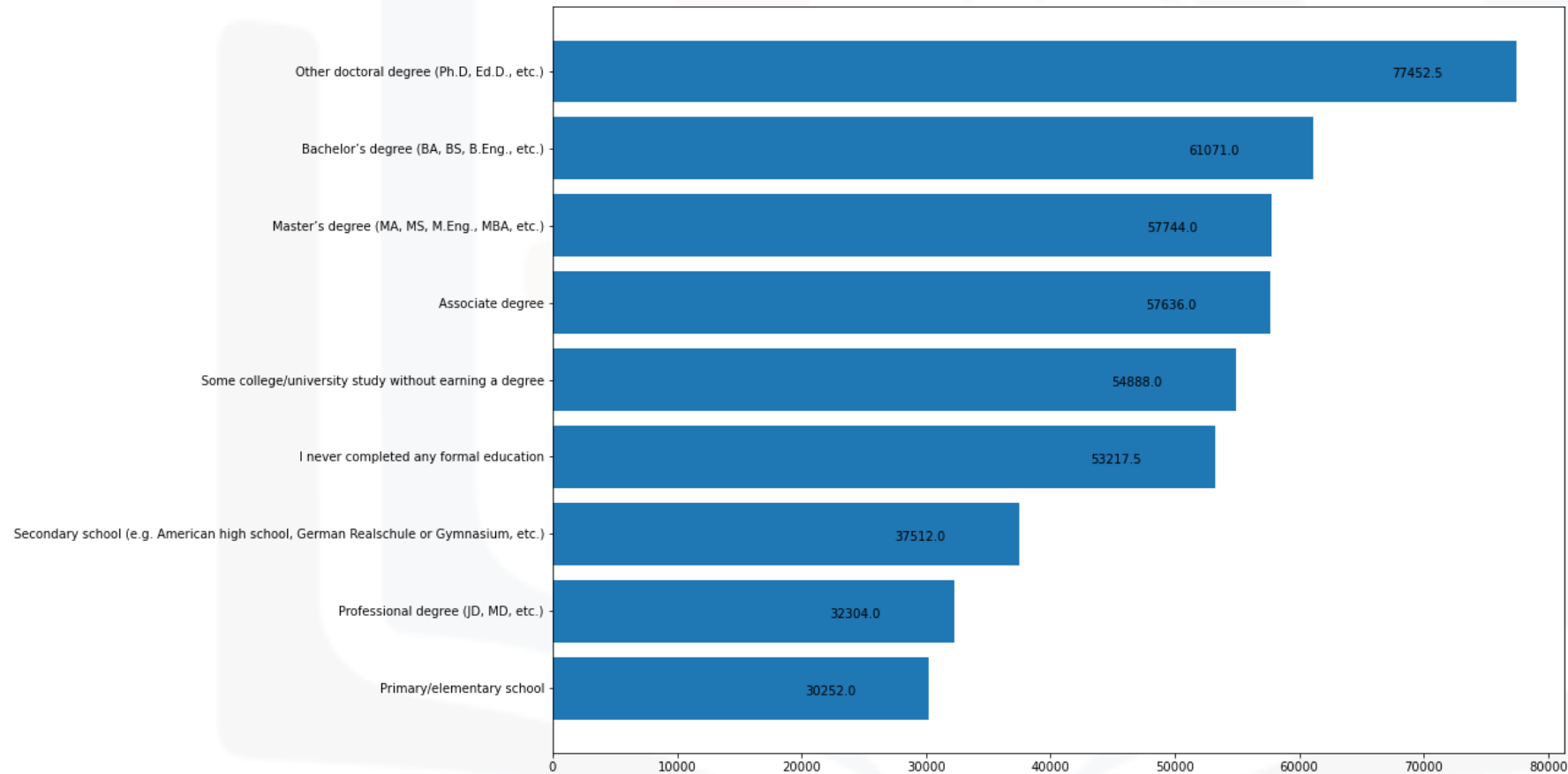




# Compensation-Race



# Compensation-Education



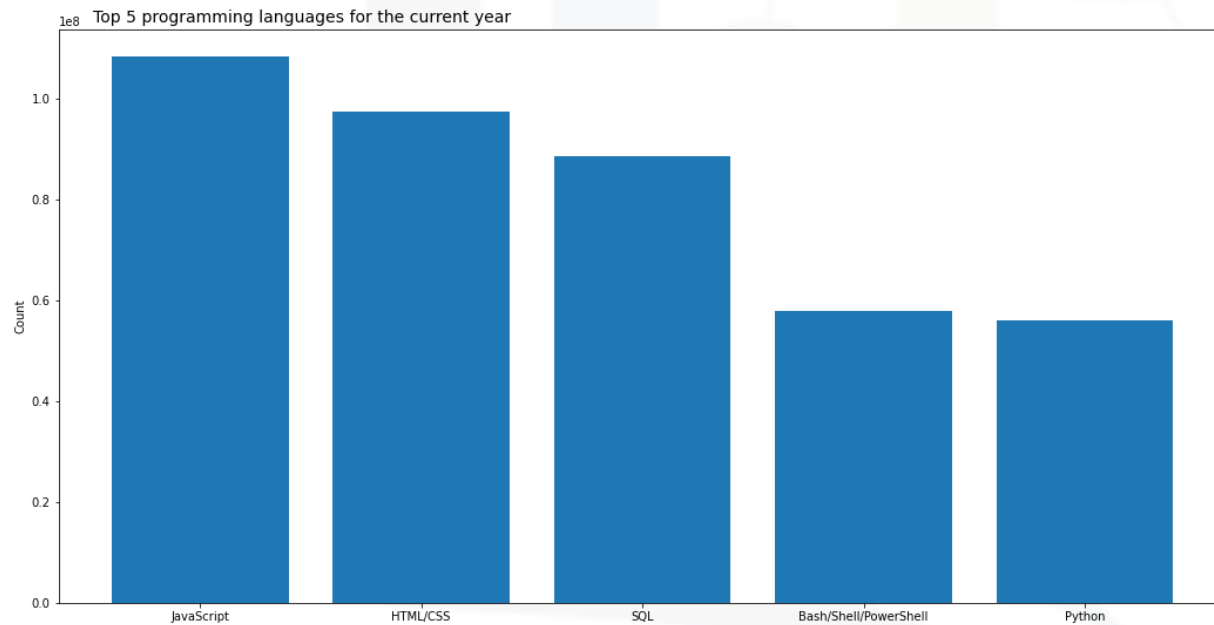
# Compensation results

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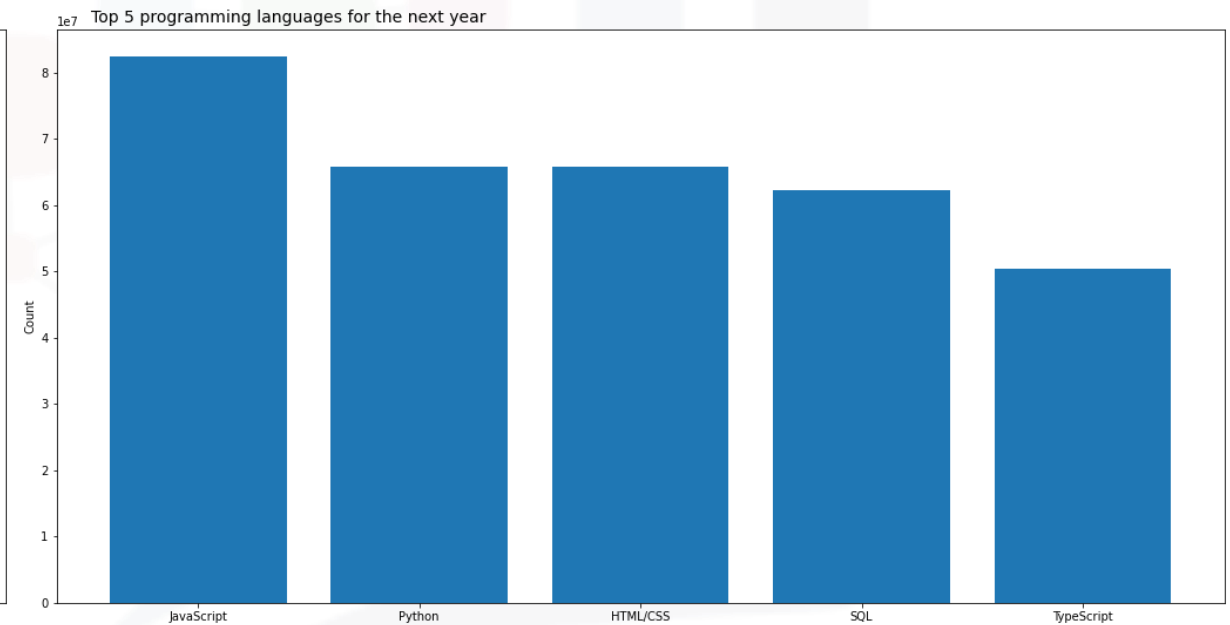
- Age does not significantly correlate with compensation
- Men have slightly higher compensation than woman
- Men work more hours per week
- Hours per week do not significantly correlate with compensation
- Whites are the majority race with the highest compensation
- PhD is related with the highest median compensation

# PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

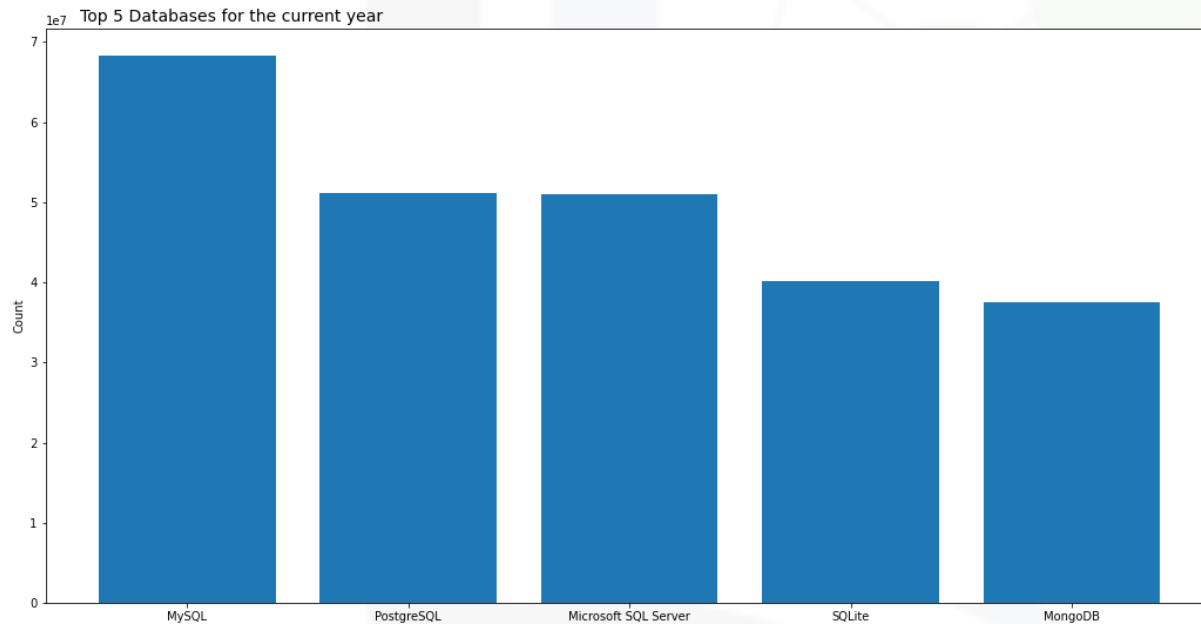
- JavaScript is both the most used and desired programming language;
- 4 languages are the same for both groups
- TypeScript is in top 5 desired languages and not being included in top 5 used ones.

## Implications

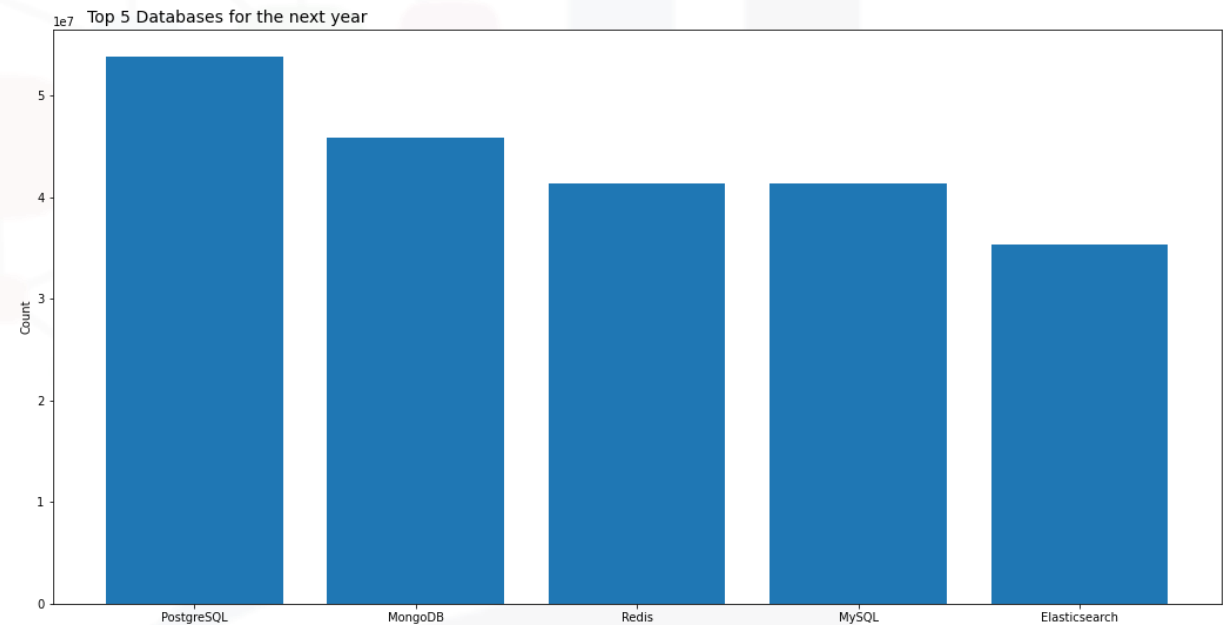
- JavaScript is a priority language to start learning
- Multiple languages have to be known to stay competitive

# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Mysql is the most used DB.
- PostgreSQL is the desirable DB.
- Both Redis and ElasticSearch gain popularity.

## Implications

- Mysql and PostgreSQL are prior DB for learning
- Multiple DB have to be known to stay competitive

# DASHBOARD

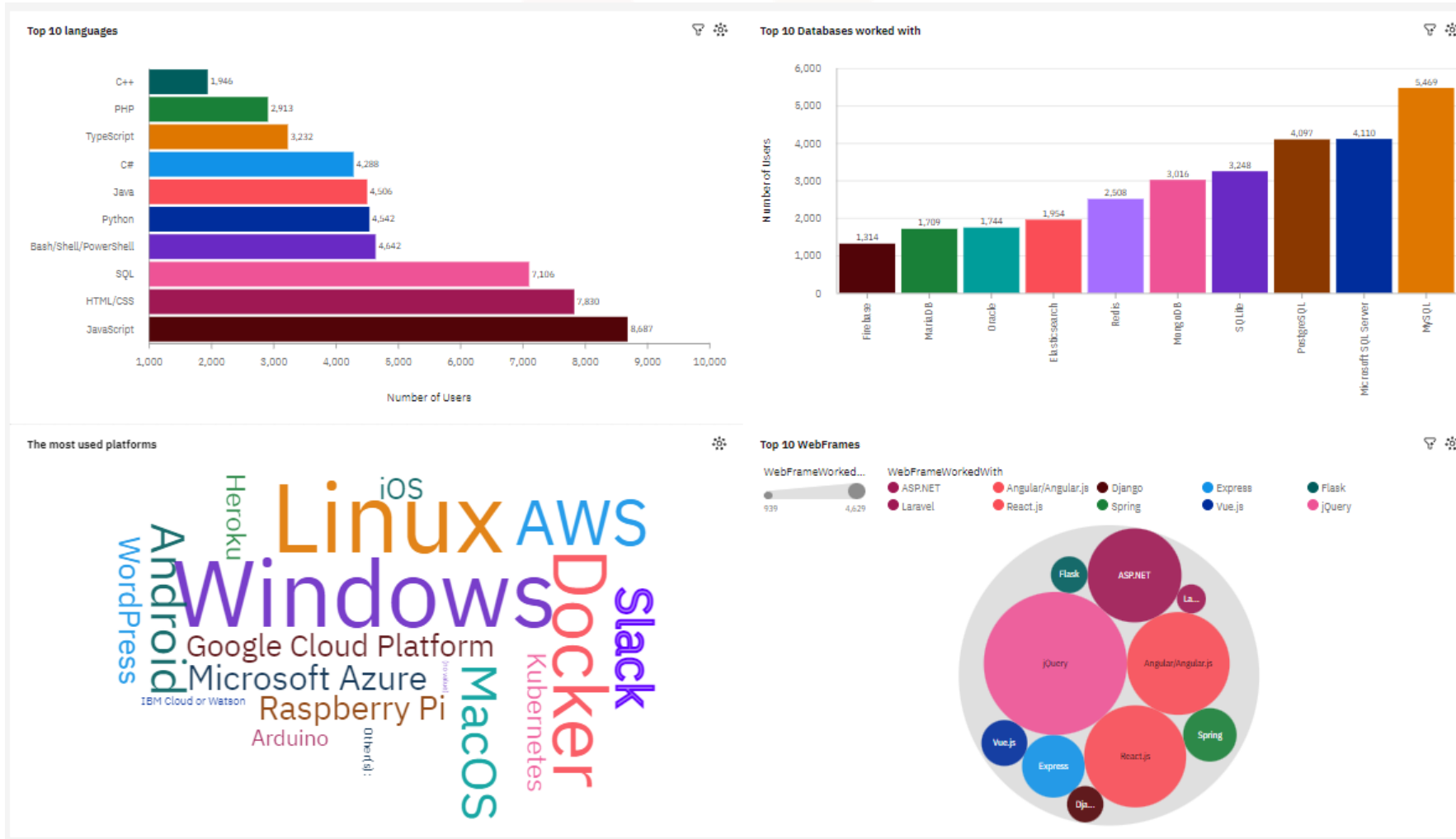
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Dashboard link -  
[https://github.com/Vladislav1977/IBM\\_CAPSTONE/blob/main/week5/week5\\_dashboar/Final\\_dashboard.pdf](https://github.com/Vladislav1977/IBM_CAPSTONE/blob/main/week5/week5_dashboar/Final_dashboard.pdf)

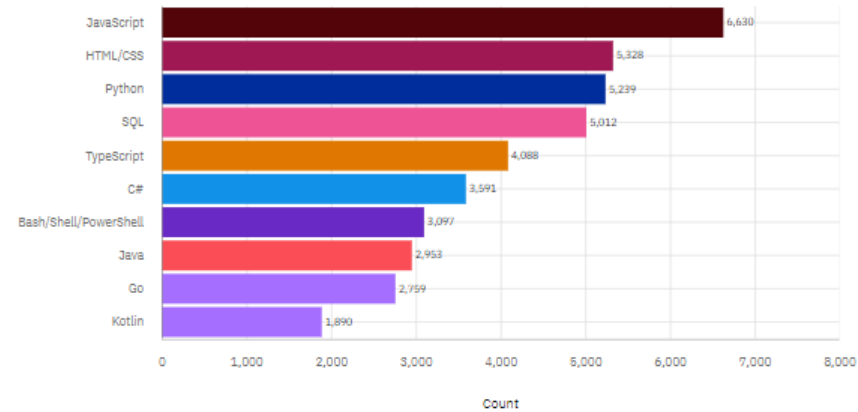


# DASHBOARD TAB 1

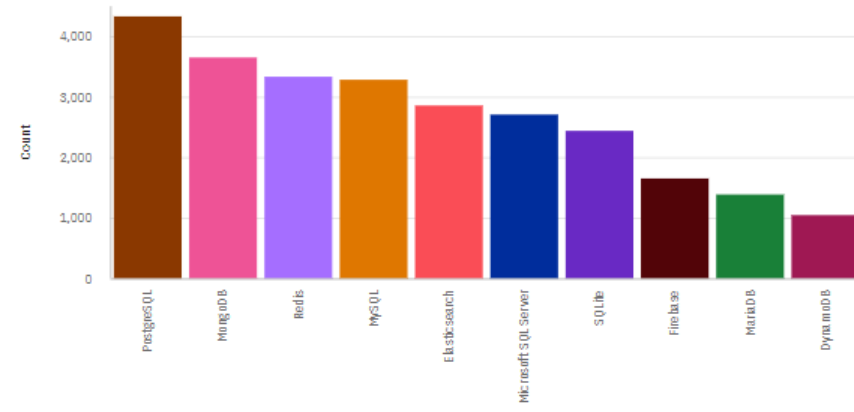


# DASHBOARD TAB 2

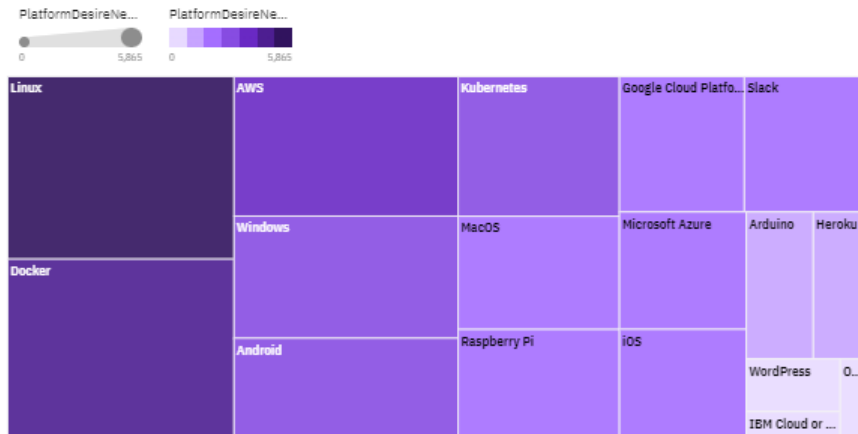
Top 10 Language Desire Next Year



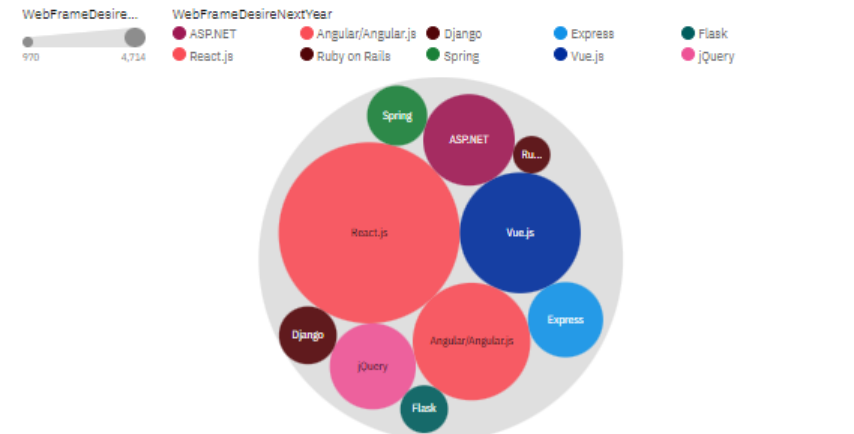
Top 10 Database Desire Next Year



Platform Desire Next Year



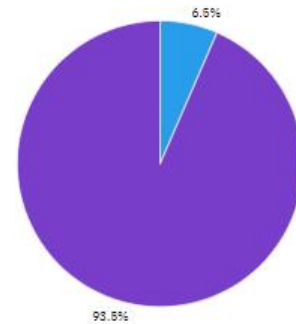
Top 10 Web Frame Desire Next Year



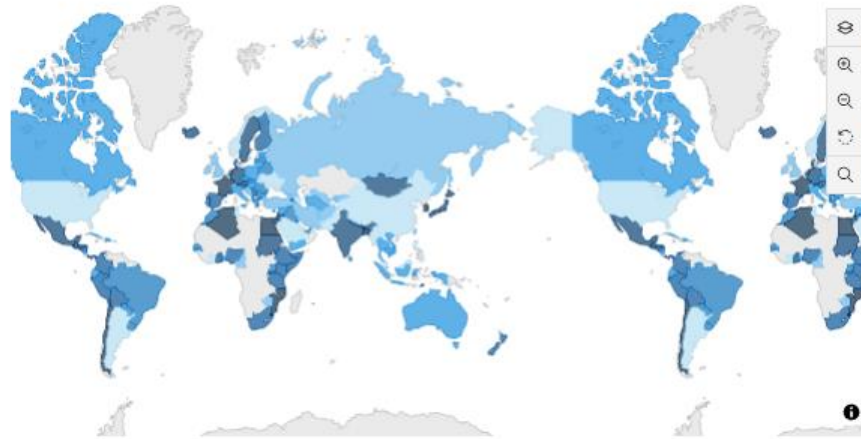
# DASHBOARD TAB 3

Respondent classified by Gender.

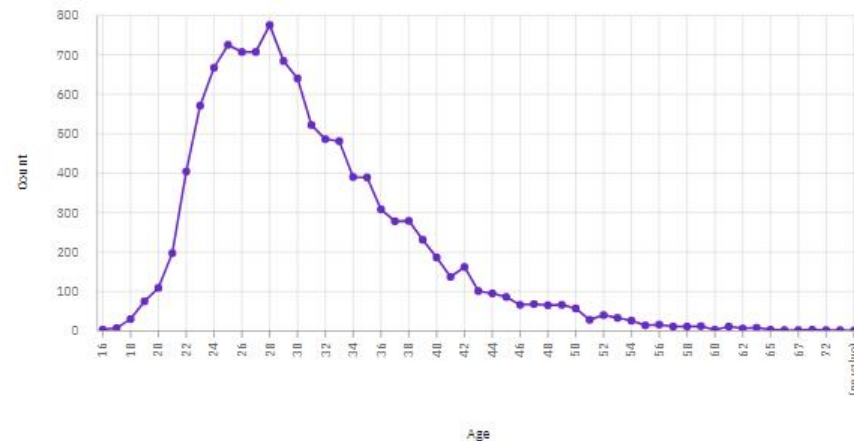
Gender  
Woman Man



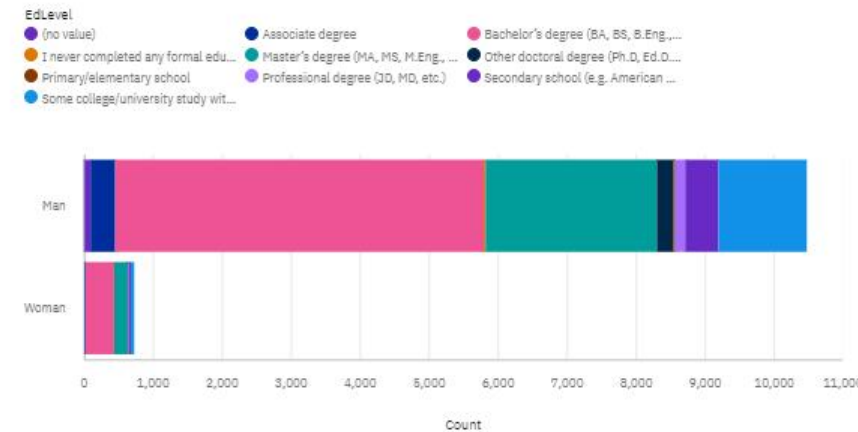
Respondent Count for Countries.



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



# DISCUSSION

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- From the presented information is not very clear factors affecting compensation variable. European male descent developer with bachelor degree consists of the majority group of developers from USA and has the highest chance to be well paid.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- React, Angular are one of the top Web Frames both current and next year.
- Mysql and JavaScript are prior used language and DB respectively.
- Windows, Linux and Docker are the most used and desirable platforms.

## Implications

- Being USA based and knowing several key languages, DB and platforms is the best way to star career

# CONCLUSION

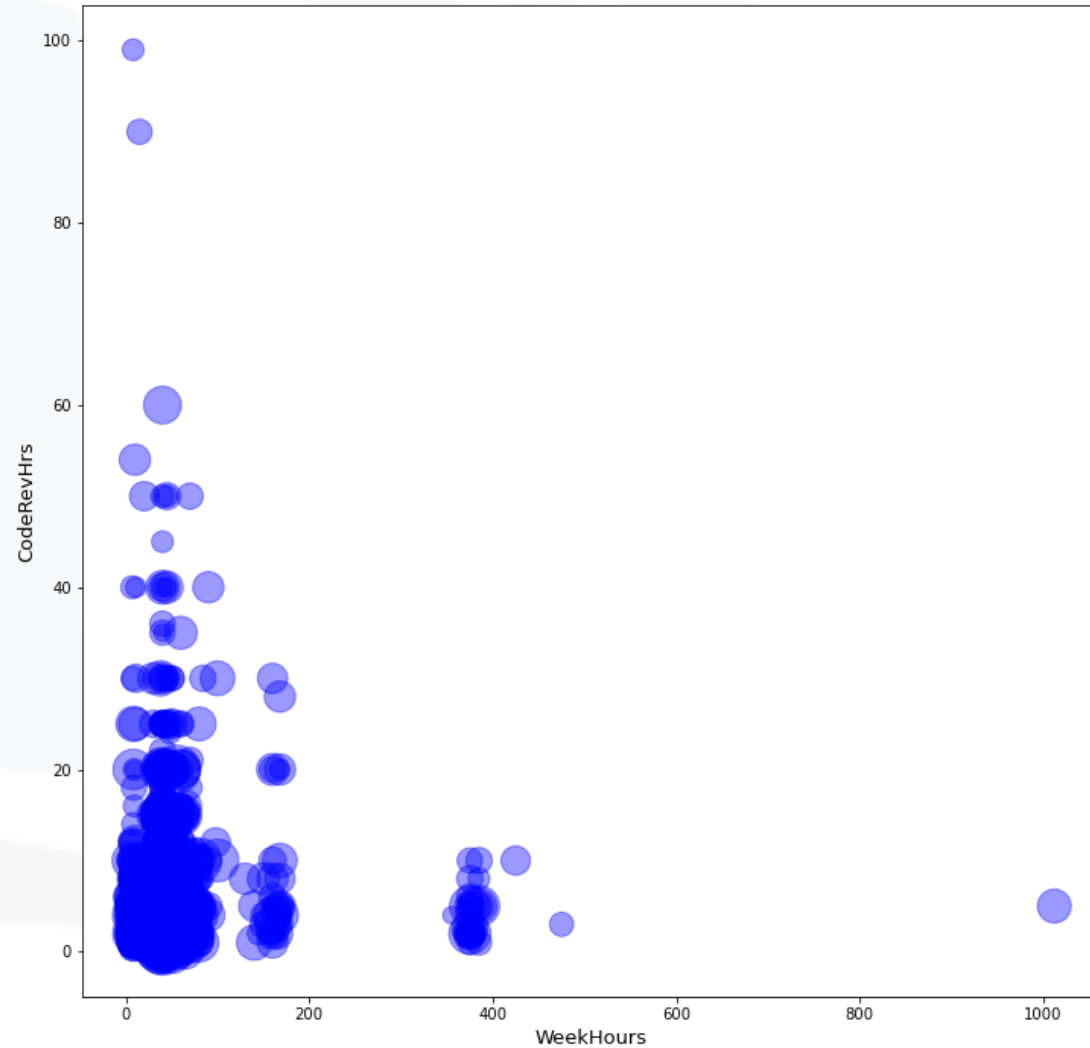
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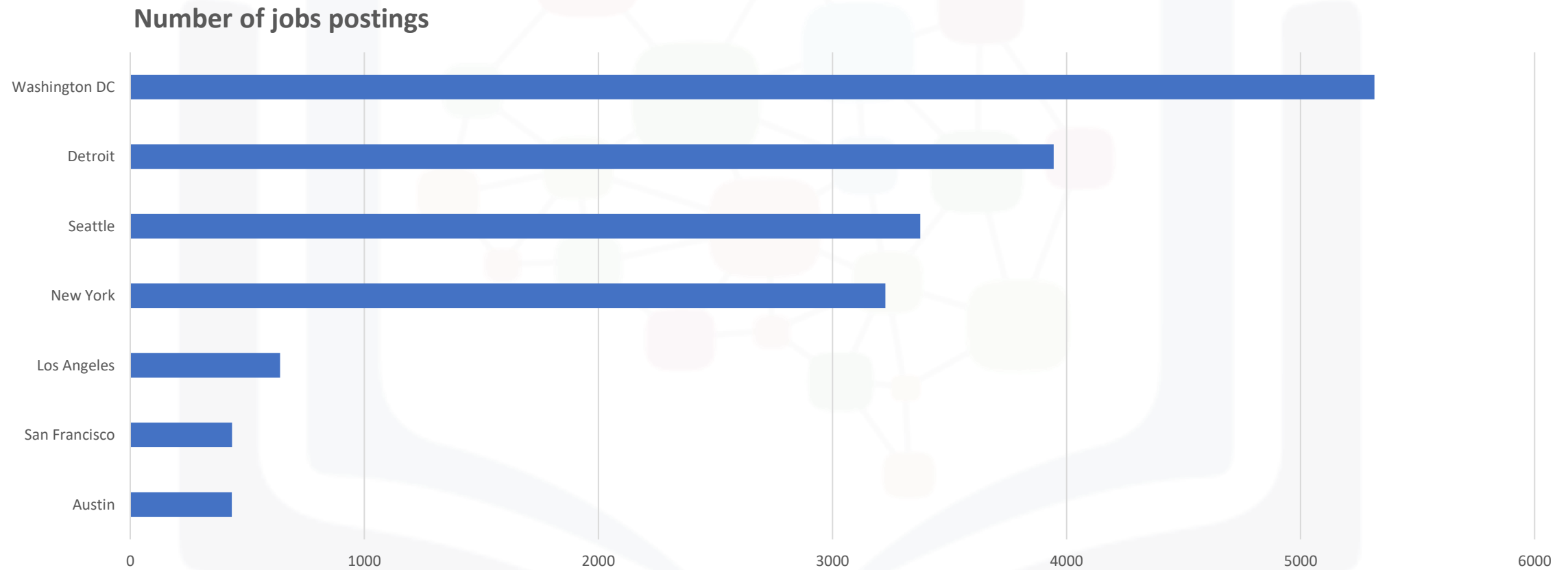
- The primarily language for learning is JavaScript
- Primarily DataBases are Mysql and PostgreSQL
- Primarily platforms are Windows, Linux, Docker
- Age does not correlate with job compensation
- Hours per week do not significantly correlate with compensation
- USA is tier one of numbers of developers and therefore is supposed to be the best for job seeking

# APPENDIX

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# JOB POSTINGS





# POPULAR LANGUAGES

