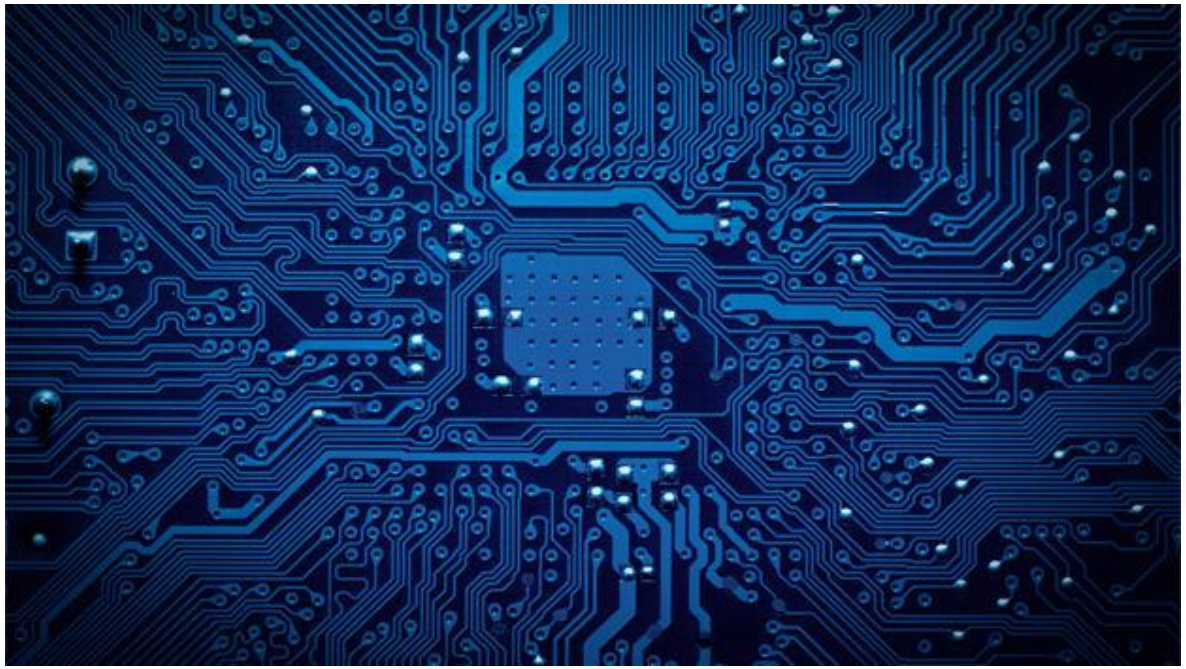


Technology: Now and Into the Future

Claire Kraft

3-18-2021

OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion

EXECUTIVE SUMMARY

- Current trends in programming languages, databases, platform, and web frames
- Shifts in the future
- Survey
  - Demographics
    - Technological gaps
    - Gender gaps

INTRODUCTION

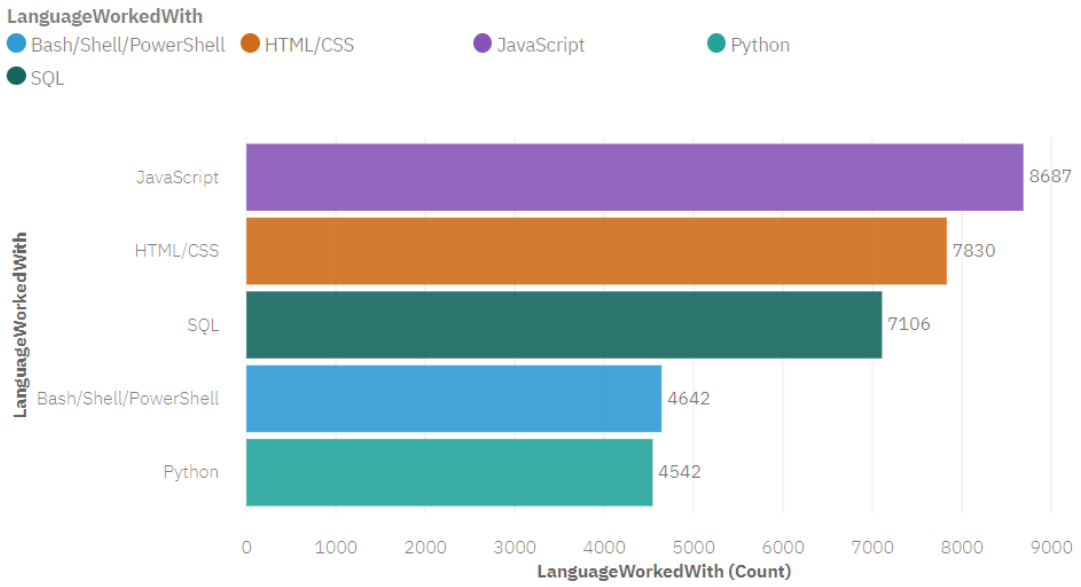
- Goal: to analyze the current trends of programming and to predict the future in this industry
- These information are most helpful to prospects and students
- Steps toward the goal
  - Identify skills sets needed for the future by
    - Evaluate the shift in coding languages and databases demands
    - Anticipate skill sets necessary for the shift

METHODOLOGY

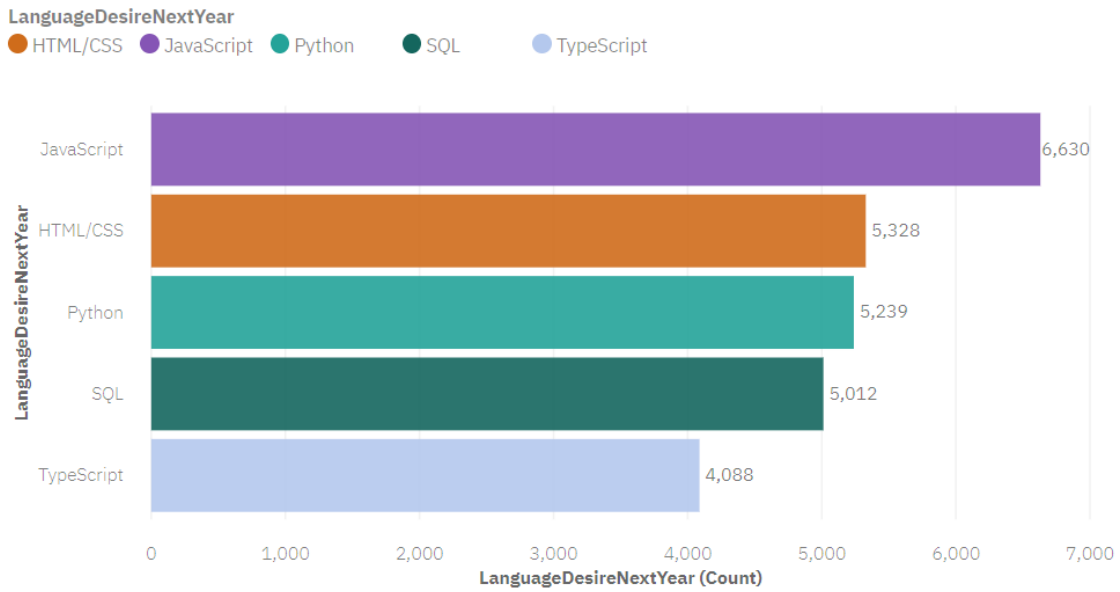
- Data collection
  - GitHub
  - Stack overflow
- Data cleaning
- Data analysis
- Data visualization
- Presentation

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

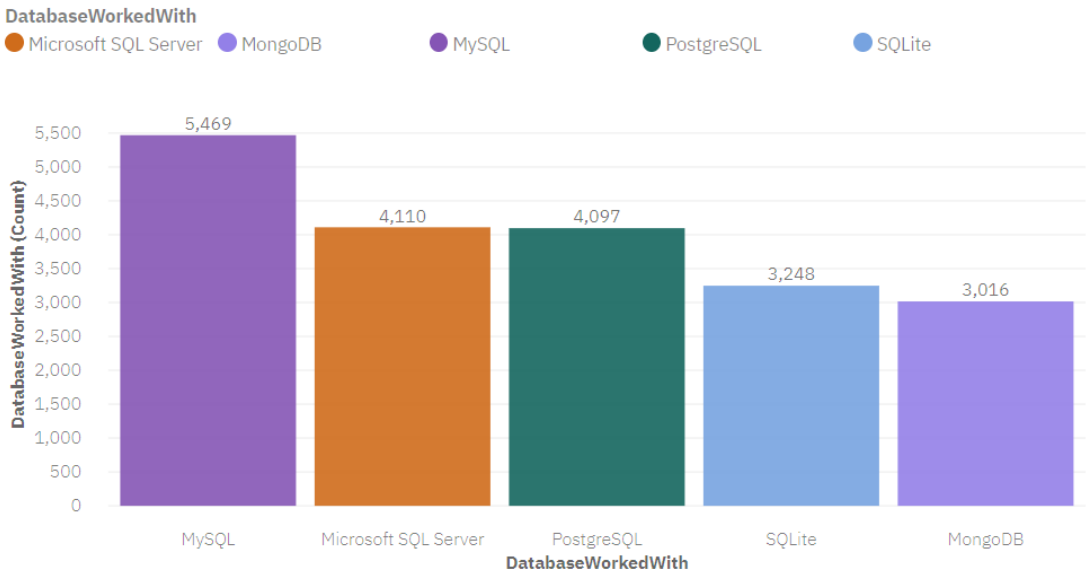
- JavaScript and HTML/CSS are holding their ranks
- Python hops a few ranks
- Bash/Shell/PowerShell fall off the list

Implications

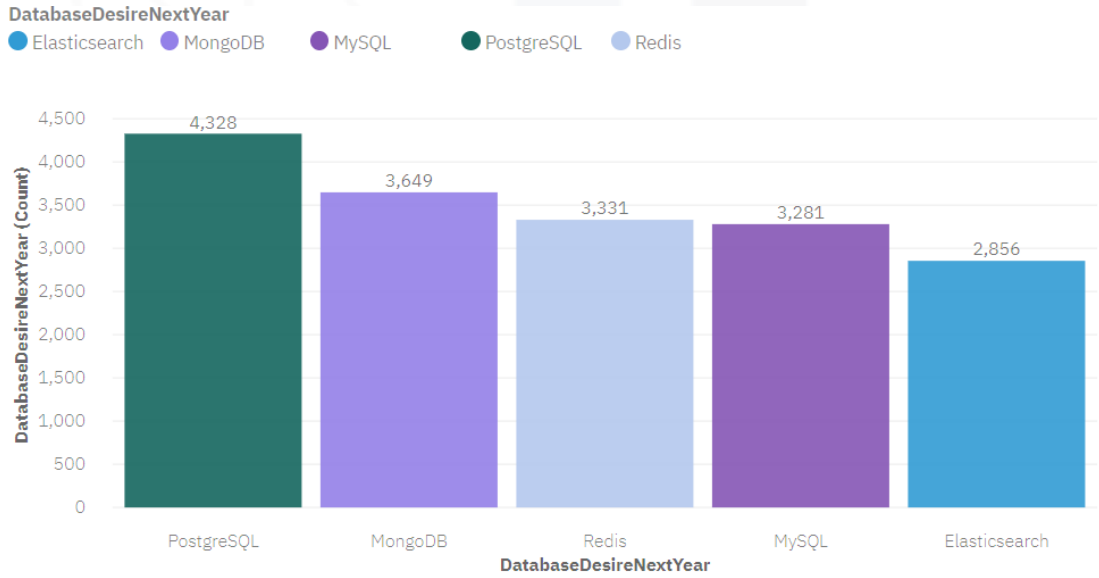
- Most popular & stable languages
- Python is becoming more popular
- Loses favor and gets replaced by other languages

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MongoDB, MySQL, and PostgreSQL maintain their ranks
- Microsoft SQL gets replaced by Elasticsearch
- Redis replaces SQLite

Implications

- Stable and fairly reliable
- Perhaps the licensure is what makes Elasticsearch more popular as it is open source and Microsoft SQL is commercial
- Redis is newer by about a decade, perhaps the newer database is more user friendly or efficient in some capacity compared to SQLite

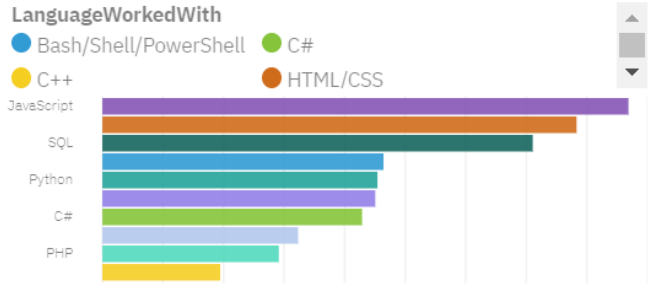
DASHBOARD

Let's explore the data together

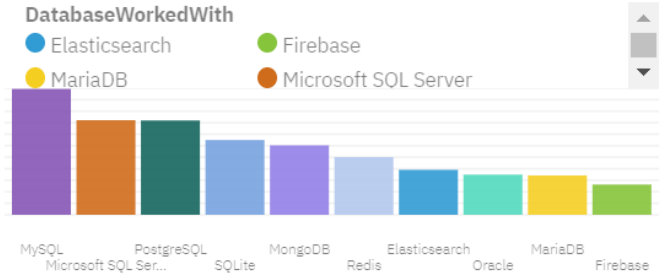
DASHBOARD TAB 1

Current Technology Usage | Future Technology Trend | Demographics

Top 10 LanguageWorkedWith

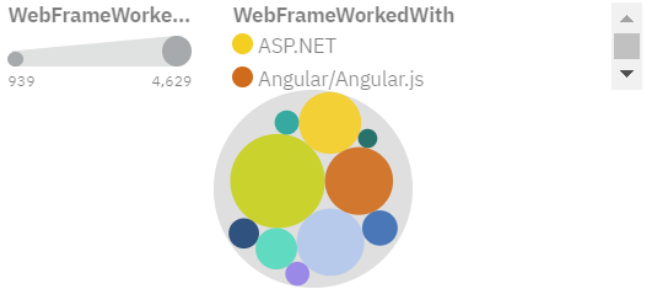


Top 10 DatabaseWorkedWith



PlatformWorkedWith

Top 10 WebFrameWorkedWith



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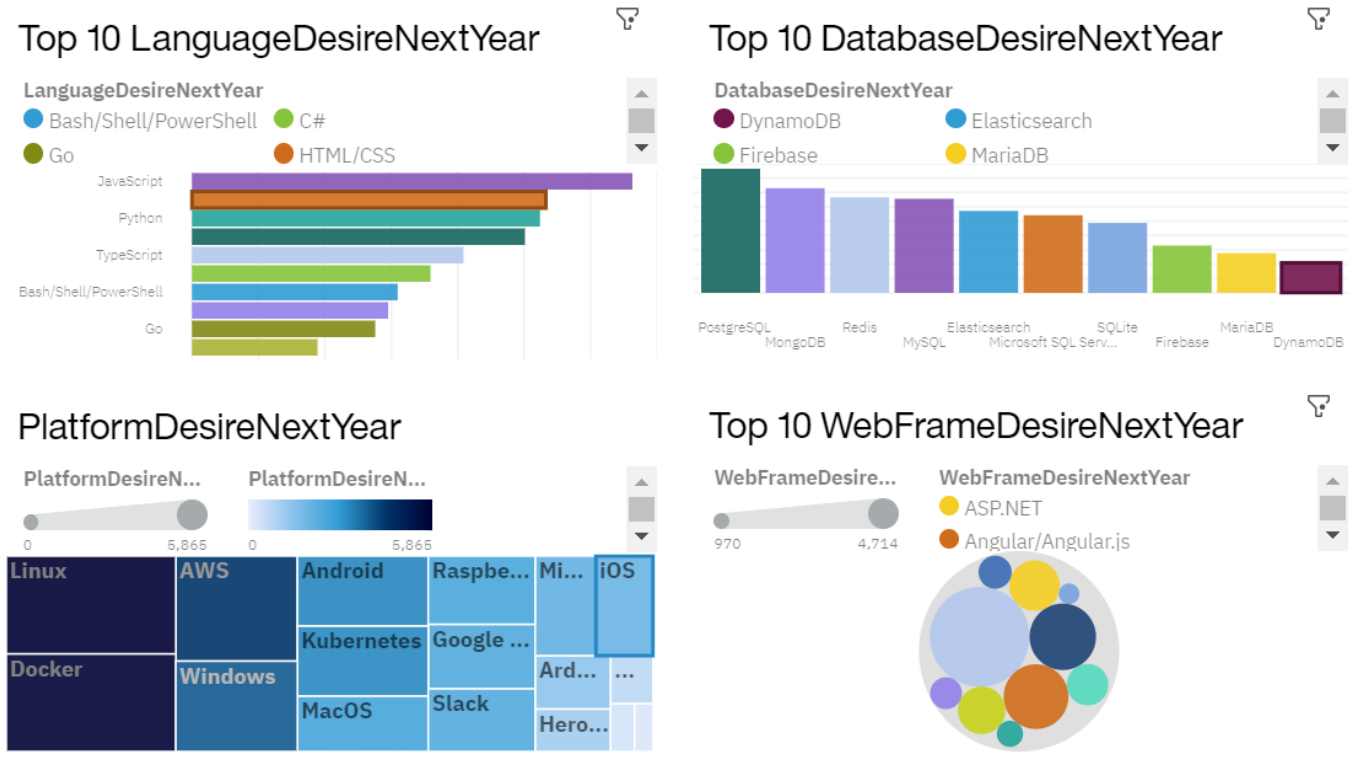
SKILLS NETWORK

DASHBOARD TAB 2

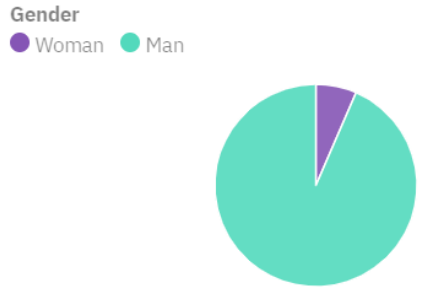
Current Technology Usage | Future Technology Trend | Demographics



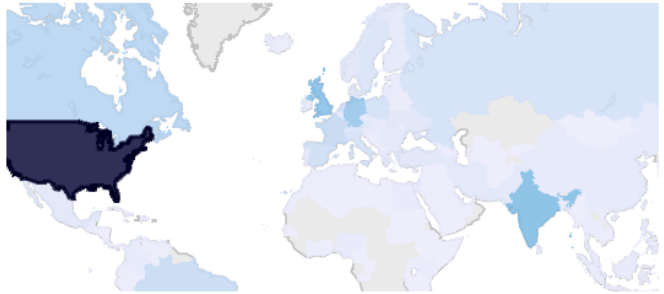
DASHBOARD TAB 3

Current Technology Usage | Future Technology Trend | Demographics

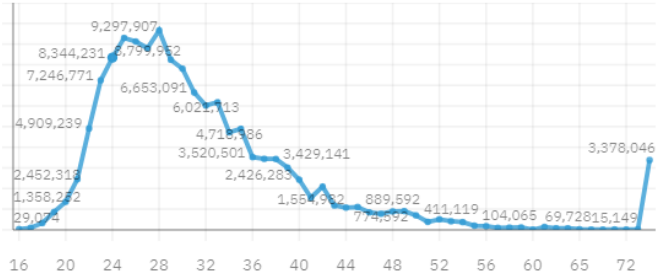
Respondent Classified By Gender



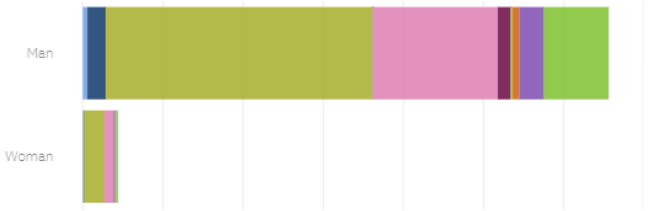
Respondent Count for Countries



Respondent Count By Age



Formal Education Level (Respondent Count by Gender)



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SKILLS NETWORK

DISCUSSION

- Having ascertained information we now know …
  - Trends in the tech industry
  - An outline for new training programs
  - Where to narrow the gaps in the tech industry
    - Gender
    - Economics

OVERALL FINDINGS & IMPLICATIONS

Findings

- The shift in tech evolution is occurring annually
- Tech is more concentrated in the developed countries
- Major disparity of gender representation in tech

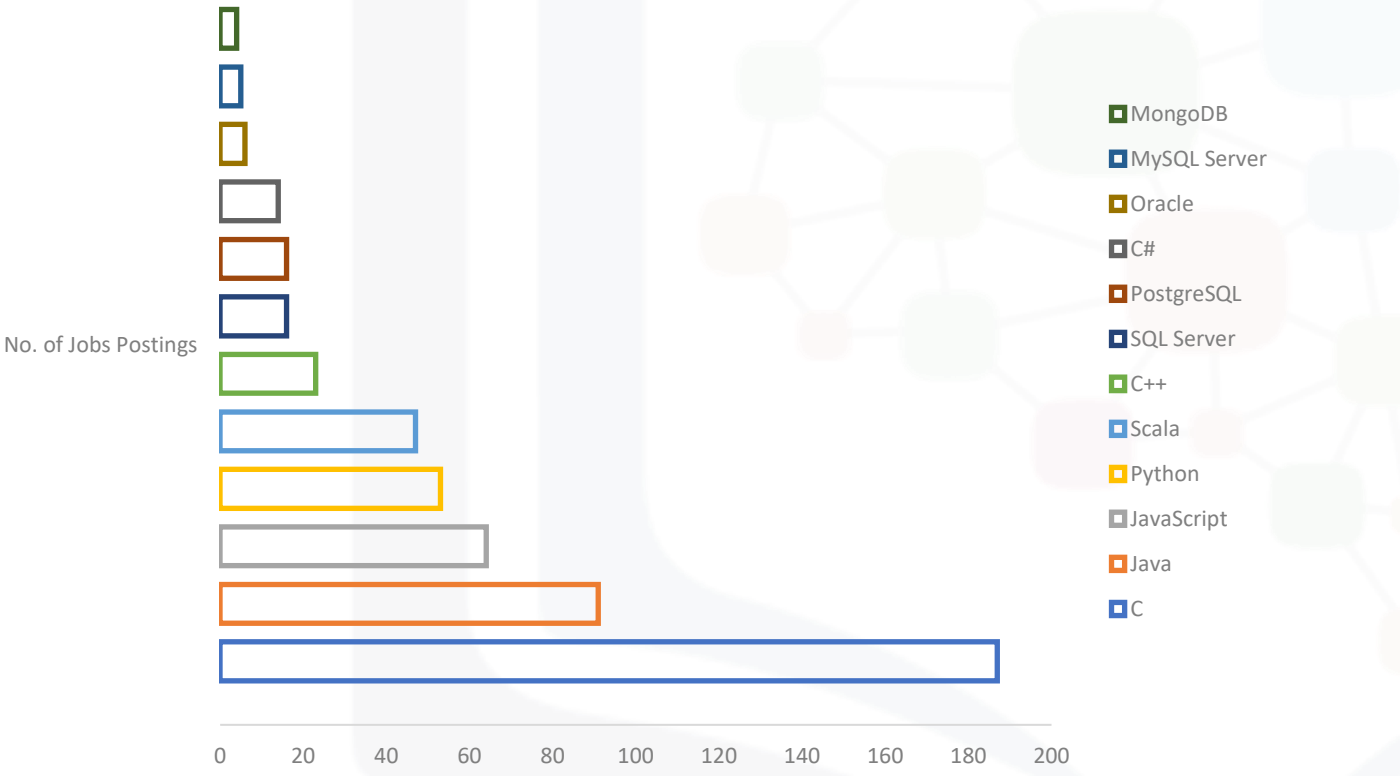
Implications

- Companies and educational institutions have a roadmap for training
- Tech needs to be equitable for the developing countries
- A guide for the future work force (diversification)

CONCLUSION

- Tech trends for current and next years
  - in programming languages, databases, platform, and web frames
- Demographics
  - Gender imbalance in the industry
  - Economic imbalance in terms of developed vs developing countries
- Action plan
  - Training and educational programs to be based on the trends as analyzed
- Future incentives
  - Job openings and salaries

GITHUB JOB POSTINGS



Technology Name	No. of Jobs Postings
C	187
Java	91
JavaScript	64
Python	53
Scala	47
C++	23
SQL Server	16
PostgreSQL	16
C#	14
Oracle	6
MySQL Server	5
MongoDB	4

POPULAR LANGUAGES BY SALARY

Language	Average Annual Salary
Swift	$130,801
Python	$114,383
C++	$113,865
JavaScript	$110,981
Java	$101,013
Go	$94,082
R	$92,037
C#	$88,726
SQL	$84,793
PHP	$84,727