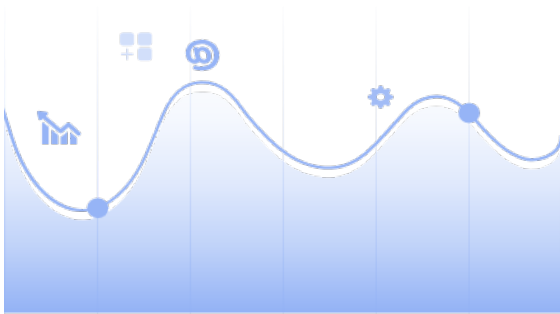# EMERGING SKILL ANALYSIS

Data-Driven Insights for Future IT Requirements

CREATED BY
ALICE FU

30 November, 2024

OUTLINE

EXECUTIVE SUMMARY

Web-based languages and technologies are the most used and desired.

JavaScript stands out as the most popular programming language due to its versatility and widespread use in web development. HTML/CSS, as the foundational technologies for building and styling web pages, play a crucial role in front-end development.

Python: the fastest-growing major programming language.

Python has risen in the ranks of programming languages in our survey, edging out Java this year.

The trend of cloud development is evidently shifting towards.

Linux is once again the most loved platform for development, with both Docker and Kubernetes also highly loved this year. Many developers say they want to start developing using Docker and AWS.

INTRODUCTION

Problems Defining

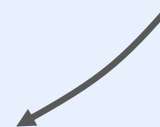In the constantly evolving IT industry IT trends matter the most.

01

Solid Background

02

Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world.

The Goal

What are the technological needs of the world and the demands of the developers?

03

METHODOLOGY

Data collection
- Using APIs
- Via web Scrapping

01

02

Data Wrangling
- Data Cleaning
- Data Transforming
- Data Organizing

Data Dashboard &Report
- Dashboard Building
- Report Submission

05

03

Data Exploratory
- Data Distribution
- Outlier Handling
- Correlation Identifying

Data visualization
- Distribution
- Relationships
- Composition
- Comparison

04
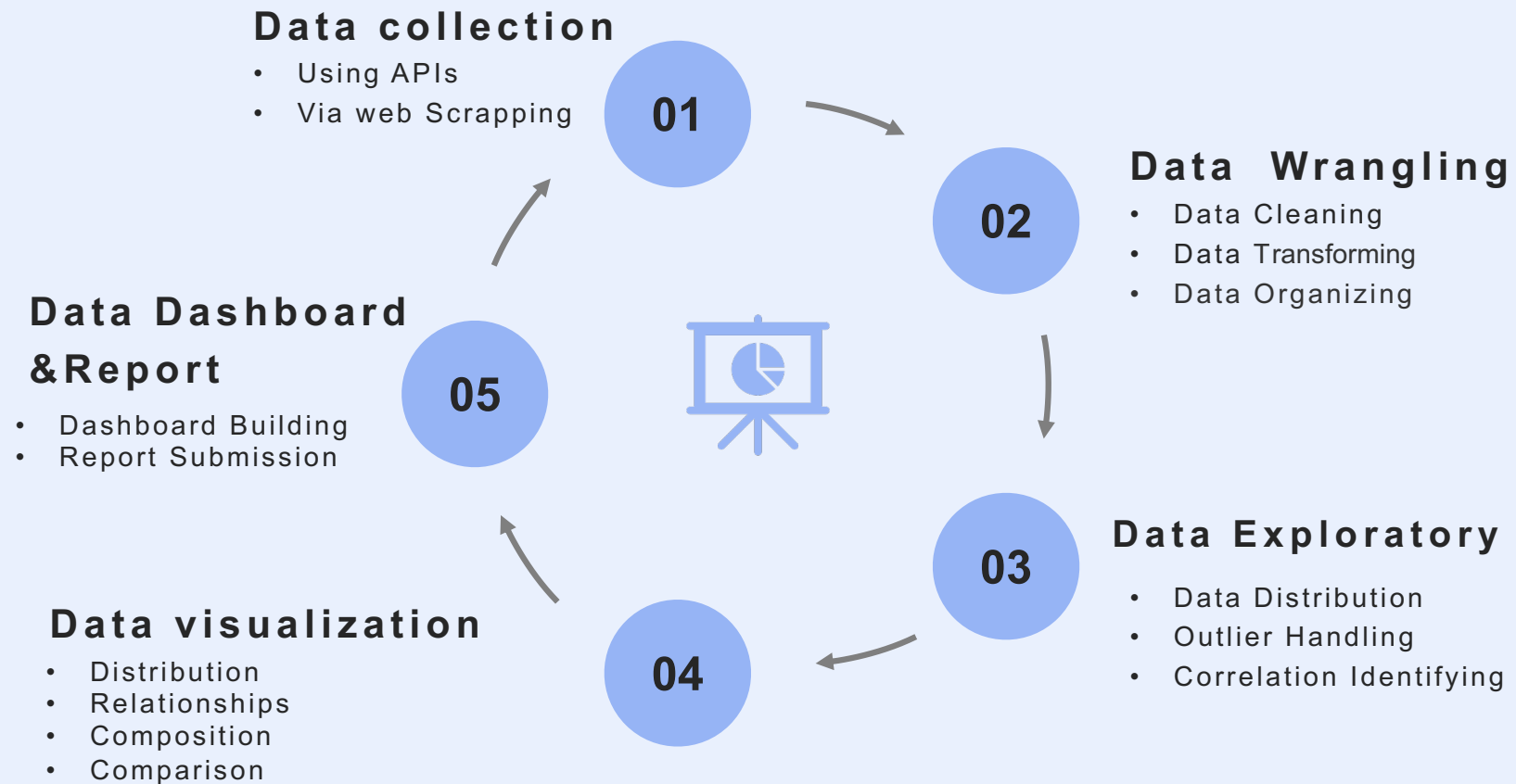
RESULTS-Language Trend
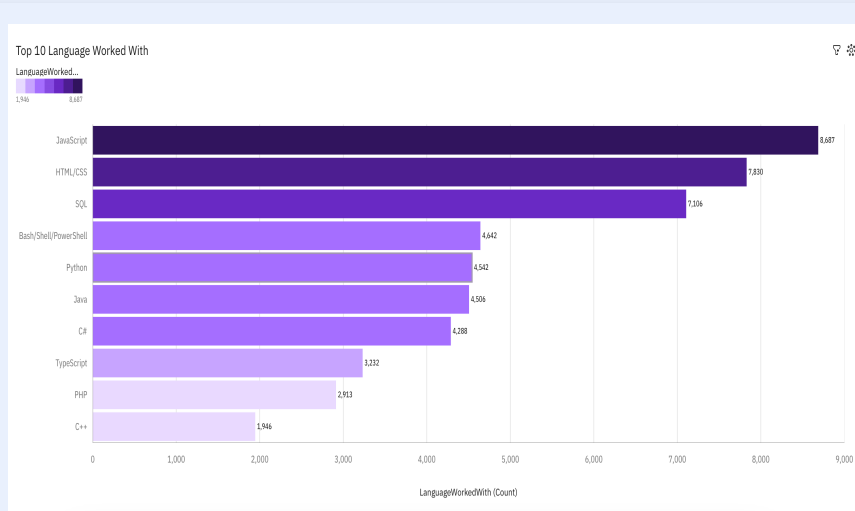
Currently

- JavaScript seems to keep as leading language.
- Python fastest-growing.
- Great interest in TypeScript

Next Year

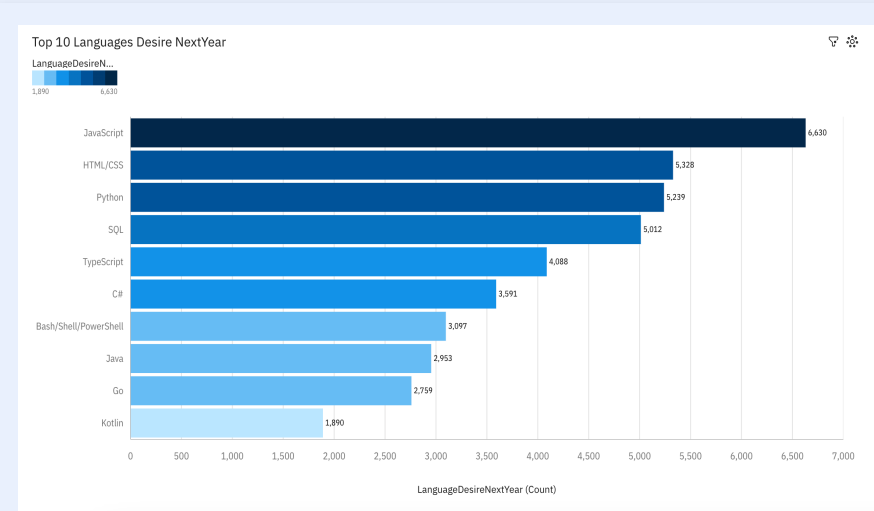- PHP, Java, and C# are seen as outdated and require more effort, leading to their decline in usage.
- Go & Kotlin: Easier Alternatives to C

RESULTS-Database Trend
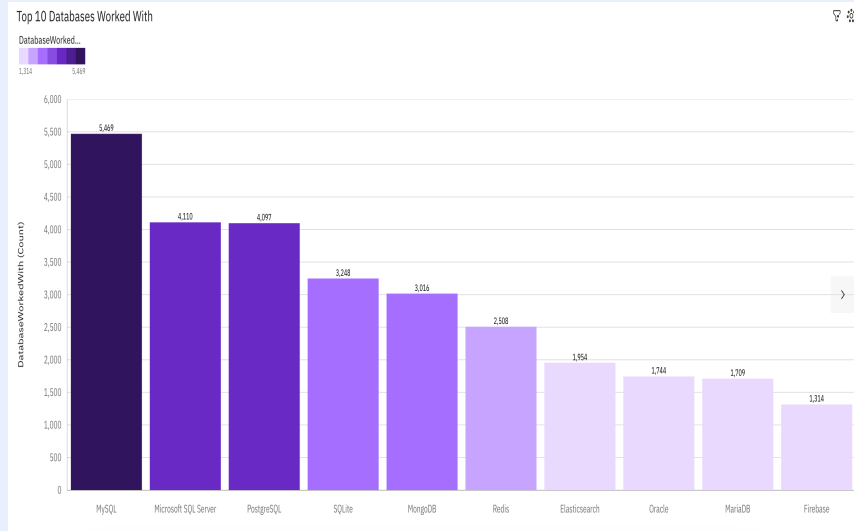
Currently

- MySQL: The most popular database.

- Microsoft SQL Server & SQLite: Declining interest.

- PostgreSQL & MongoDB: Gaining popularity.
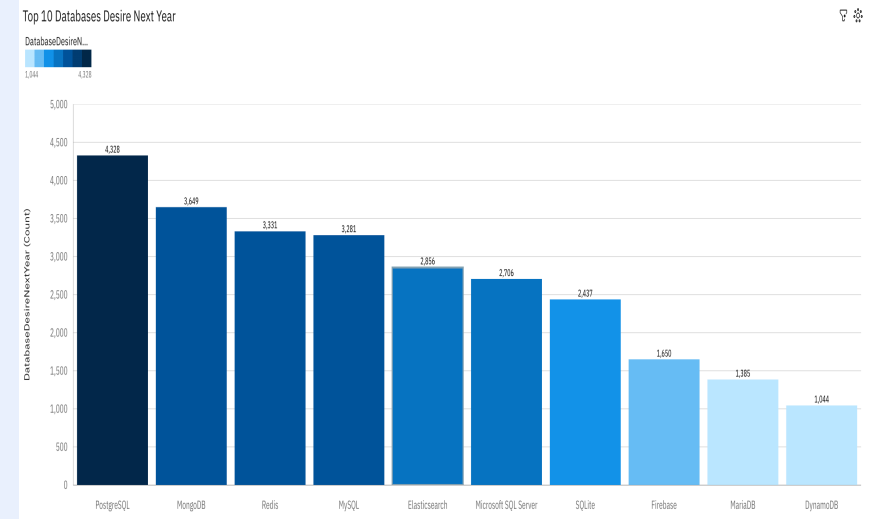
Next Year

- Microsoft SQL Server & SQLite: Losing market share.

- PostgreSQL & MongoDB: Gaining market foothold.

DASHBOARD

👋 Hi, I'm @AliceInBRisbane

👀 About Me

I'm a Marketing Analyst with a strong interest in data science, analytics, and full-stack programming. I enjoy exploring trends, uncovering insights, and building end-to-end solutions that bring data and functionality together seamlessly.

🌱 Currently Learning

- **Data Science & Analytics**: Sharpening my skills in data visualization and predictive analytics.
- **Full-Stack Development**: Building projects using **React**, **Node.js**, **JavaScript**, and **PHP**.

🧫 Collaboration Interests

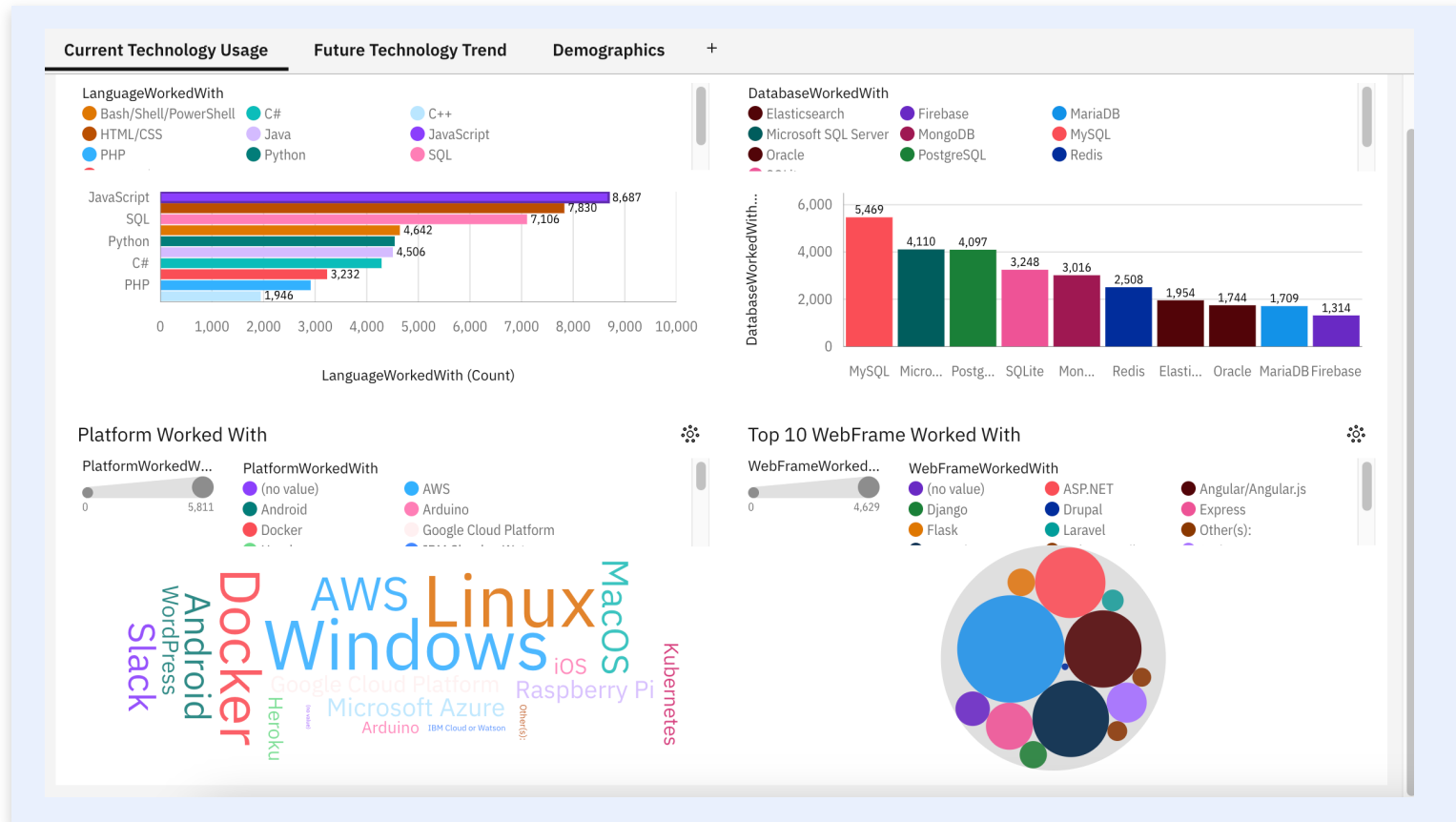I'm excited to collaborate on:

- Data visualization and analysis projects
- Full-stack applications for analytics and marketing tools
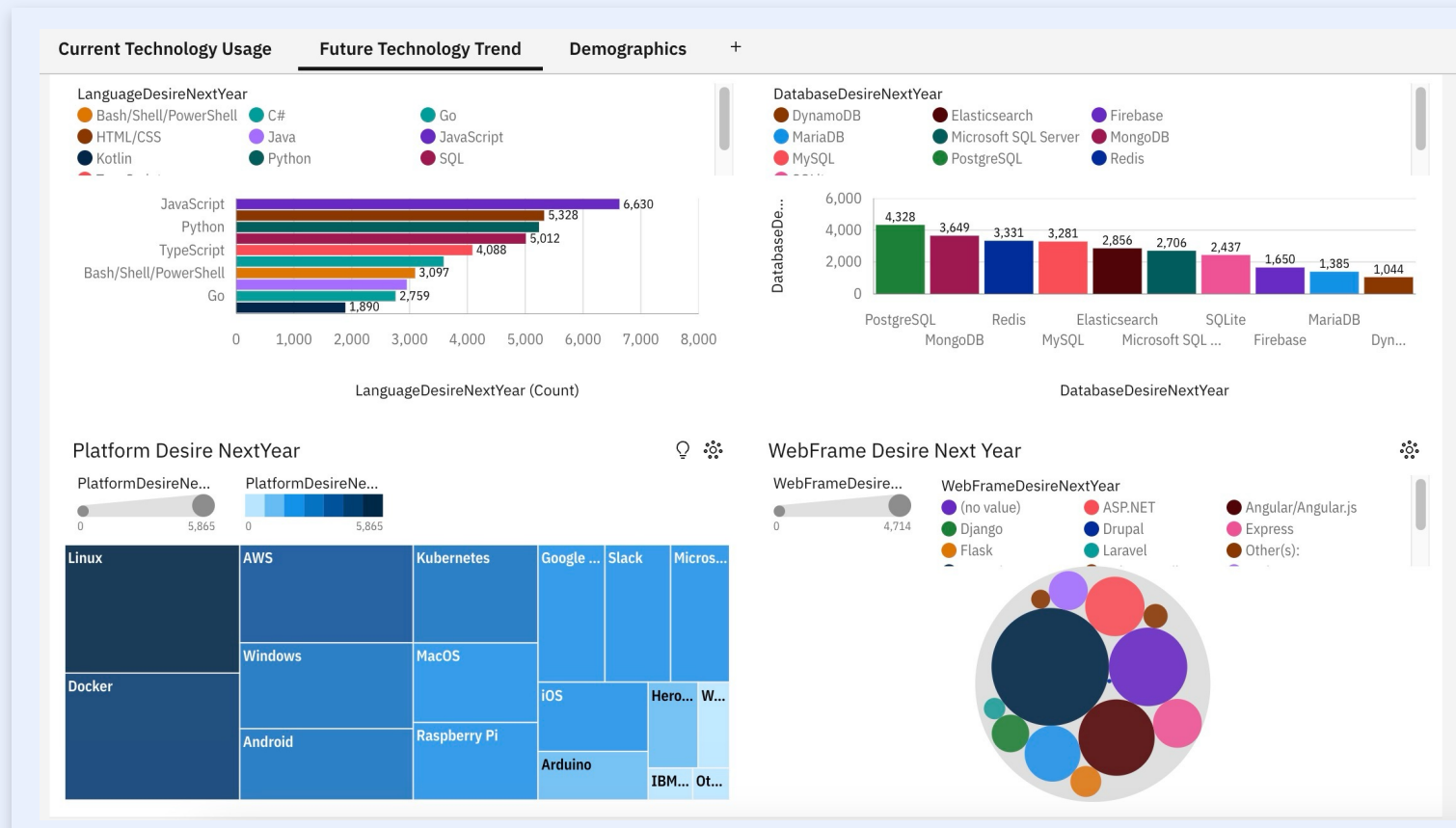- Open-source projects in React, Node.js, or PHP

Alice Fu
AliceInBRisbane

Edit profile

https://github.com/AliceInBRisbane/Job_Market_Analysis/blob/main/Job%20Market%20Analysis%20Dashboard.pdf

DASHBOARD
CURRENT TECHNOLOGY USAGE

DASHBOARD
FUTURE TECHNOLOGY USAGE

Current Technology Usage   **Future Technology Trend**   Demographics   +

LanguageDesireNextYear
- Bash/Shell/PowerShell
- C#
- Go
- HTML/CSS
- Java
- JavaScript
- Kotlin
- Python
- SQL

Language	Count
JavaScript	6,630
Python	5,328
TypeScript	5,012
	4,088
Bash/Shell/PowerShell	3,097
Go	2,759
	1,890

0   1,000   2,000   3,000   4,000   5,000   6,000   7,000   8,000

LanguageDesireNextYear (Count)

DatabaseDesireNextYear
- DynamoDB
- Elasticsearch
- Firebase
- MariaDB
- Microsoft SQL Server
- MongoDB
- MySQL
- PostgreSQL
- Redis

6,000

PostgreSQL	4,328
MongoDB	3,649
Redis	3,331
MySQL	3,281
Elasticsearch	2,856
Microsoft SQL	2,706
SQLite	2,437
Firebase	1,650
MariaDB	1,385
Dyn...	1,044

DatabaseDesireNextYear

Platform Desire NextYear

PlatformDesireNe...   PlatformDesireNe...
0   5,865   0   5,865

Linux	AWS	Kubernetes	Google ...	Slack	Micros...
Docker	Windows	MacOS	iOS	Hero...	W...
	Android	Raspberry Pi	Arduino	IBM...	Ot...

WebFrame Desire Next Year

WebFrameDesire...
0   4,714

WebFrameDesireNextYear
- (no value)
- ASP.NET
- Angular/Angular.js
- Django
- Drupal
- Express
- Flask
- Laravel
- Other(s):

DASHBOARD DEMOGRAPHICS

Gender by Gender

- ● Woman ● Man

6.5%

93.5%

Respondent Count for Countries

Country (Count)

1 — 3,058

Respondent Count by Age

Respondent Count by Gender, classified by Formal Education Level

EdLevel

- ● (no value)
- ● Bachelor's degree (BA, BS, B.Eng....
- ● Master's degree (MA, MS, M.Eng,...
- ● Associate degree
- ● I never completed any formal edu...
- ● Other doctoral degree (Ph.D, Ed.D...

0   1,000   2,000   3,000   4,000   5,000   6,000   7,000   8,000   9,000   10,000   11,000

DISCUSSION

FINDINGS

- Majority male, aged 22-32, from developed English-speaking nations.

- Key job factor: Languages & technologies.

- JavaScript widespread, TypeScript rising.

- Python: High salaries, abundant jobs, driving desire.

IMPLICATIONS

Young Developers' Preferences

- Tendency for new tech : Youth Developers show desire for new languages and technologies.

- Job choice influence : Developers choose jobs based on tech, influencing employer choices.
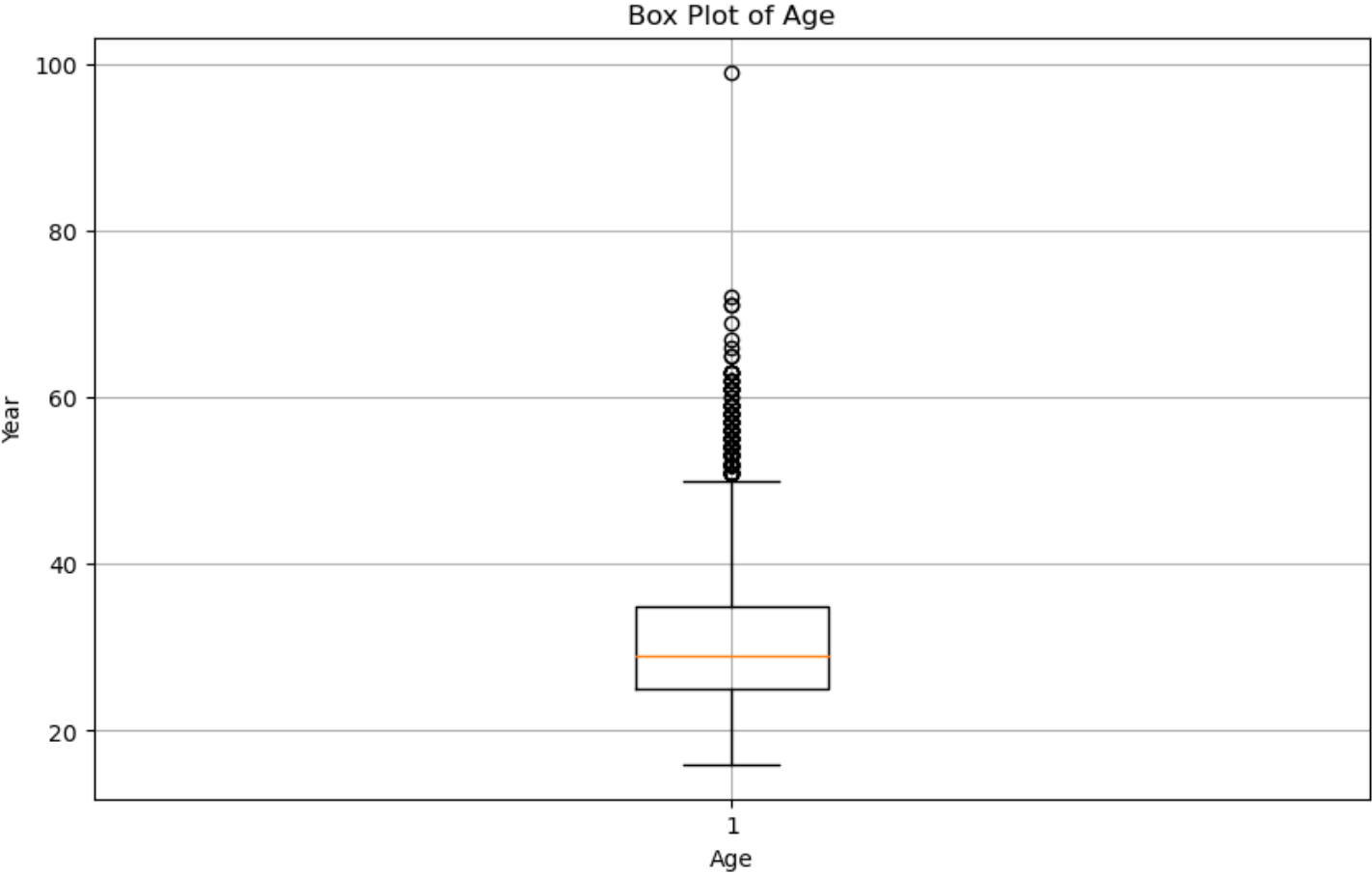
Tech Trends and Demographics

- JavaScript & TypeScript rise : Gaining popularity among developers.

- Global polarization : Noticeable differences in developer location and gender.

- Education level : Majority of young developers lack postgraduate studies.
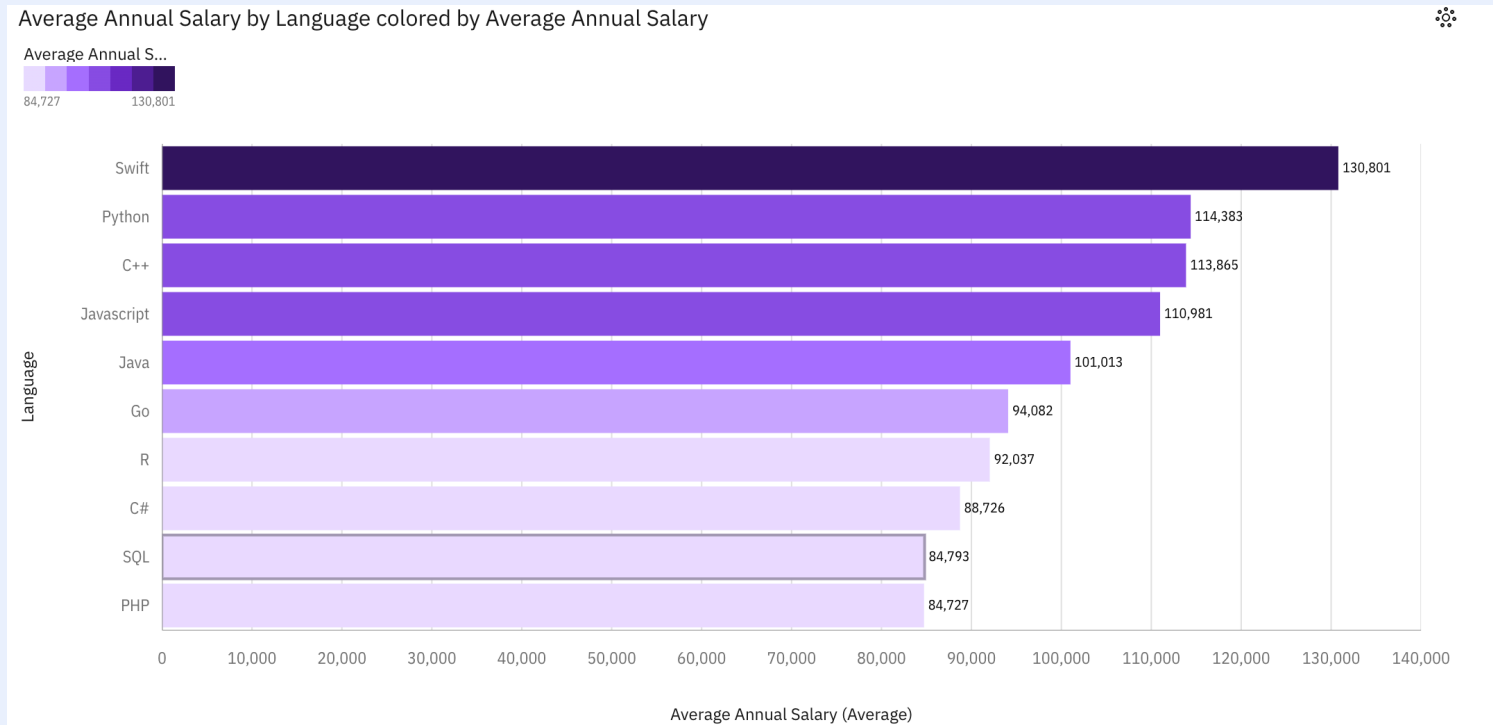
CONCLUSION

FINDINGS

- Developers have distinct characteristics that set them apart.

- By examining popularity trends of various tools, platforms, and languages, one can gain insight into what is currently in demand.

- Additionally, there is a need to improve accessibility to this job market for individuals in developing countries.
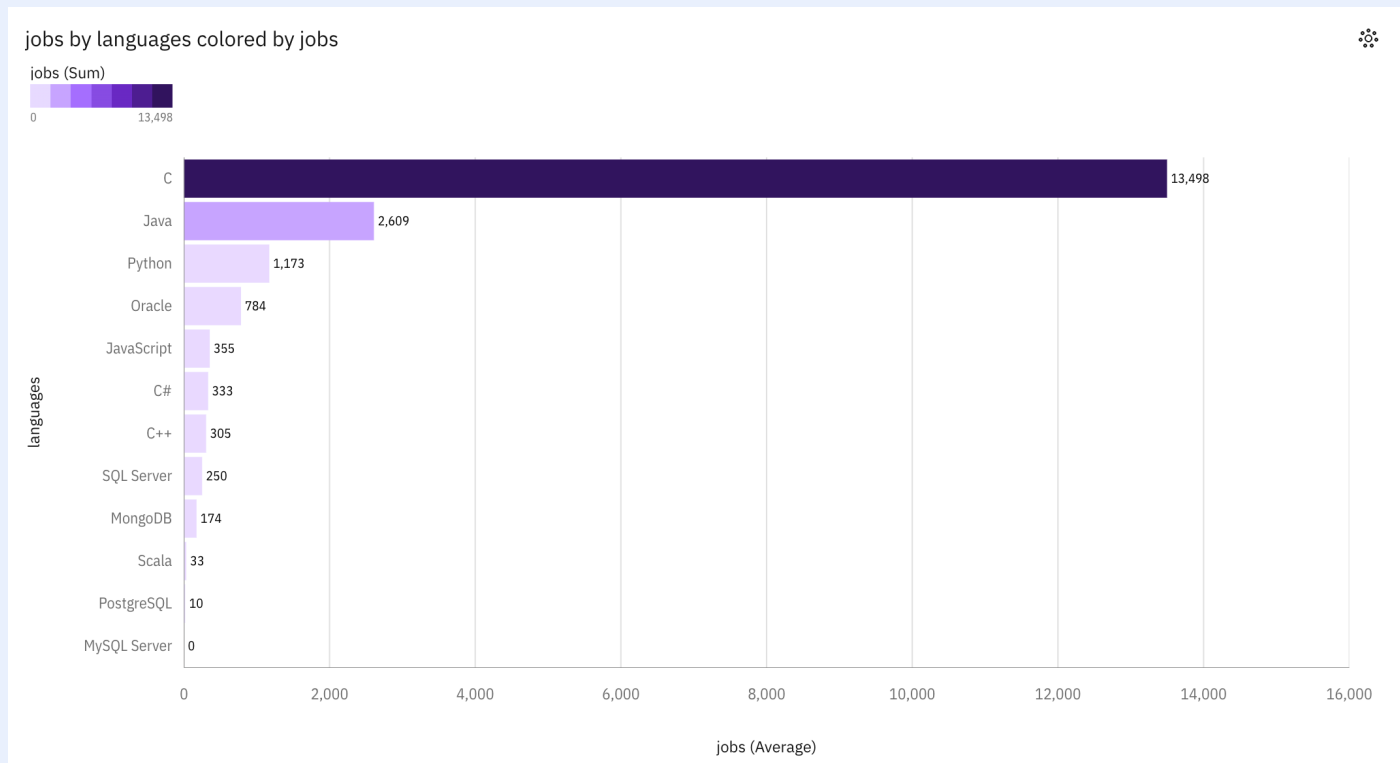
Box Plot of Age

APPENDIX

Average Annual Salary by Language colored by Average Annual Salary

Average Annual S...

84,727   130,801

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

Average Annual Salary (Average)

APPENDIX

jobs by languages colored by jobs

jobs (Sum)

0   13,498

languages	jobs (Average)
C	13,498
Java	2,609
Python	1,173
Oracle	784
JavaScript	355
C#	333
C++	305
SQL Server	250
MongoDB	174
Scala	33
PostgreSQL	10
MySQL Server	0

jobs (Average): 0, 2,000, 4,000, 6,000, 8,000, 10,000, 12,000, 14,000, 16,000

SOURCE

1.PromptCloud and DataStock. (2019, August). Jobs on Naukri.com, Version 1. Retrieved November, 2024 from https://www.kaggle.com/datasets/promptcloud/jobs-on-naukricom/data.

2.IBM Skills Network. Popular Programming Languages. Retrieved November, 2024 from https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/labs/datasets/Programming_Languages.html

3.Stack Overflow. (2019, February). Annual Developer Survey, 2019. Retrieved November, 2024 from https://insights.stackoverflow.com/survey?_ga=2.177616038.2076724704.1713048265-654320079.1713048265