



The Vikings

BUSINESS OVERVIEW

- ❖ Africa's tech sector is booming, leading to increased job opportunities.
- ❖ However, salary information in the industry is limited.
- ❖ To address this, a project aims to create a platform predicting developer salaries and providing salary comparisons across regions.

AFRICAN SALARIES

Lack of platforms available that accurately predict developer salaries in Africa

FOCUS ON DEVELOPERS

Few platforms optimize on developer information only, but rather, most generalize for all professions

ACCURACY OF PREDICTION

Most other platforms use average salaries from regions where developers earn more than in Africa

LACK OF MATERIAL

Lack of up-to-date resources that assist developers to prepare themselves for both technical and non-technical interviews and to build their portfolio.

CHALLENGES

PROPOSED SOLUTIONS

ACCOUNT FOR REGIONAL DIFFERENCES

Develop a platform that considers regional differences when predicting salaries

PROVIDE A RANGE OF SALARY

To provide range of salaries which is a more accurate method of prediction than a single figure

FOCUS ON DEVELOPERS

To develop a platform that focuses on developer qualities and features

PROVIDE MATERIAL

Provide adequate material to build their portfolio and prepare for interviews

PROJECT OBJECTIVES



JOB SEEKERS

To enable Jobseekers to ask for competitive salaries during contract negotiations.



EMPLOYERS

To assist employers in offering fair compensation to their employees.



RECRUITMENT AGENCIES

Assist Recruitment agencies offer accurate salary estimates to their clients.



PROJECT SUCCESS METRICS

RMSE (ROOT MEAN SQUARE ERROR)

- ❖ This is used to predict the error of a predictive model

ACCURACY

- ❖ This is the ratio of the number of correct predictions to the total number of input samples.
- ❖ A **test accuracy of 71%** will be considered a **success**

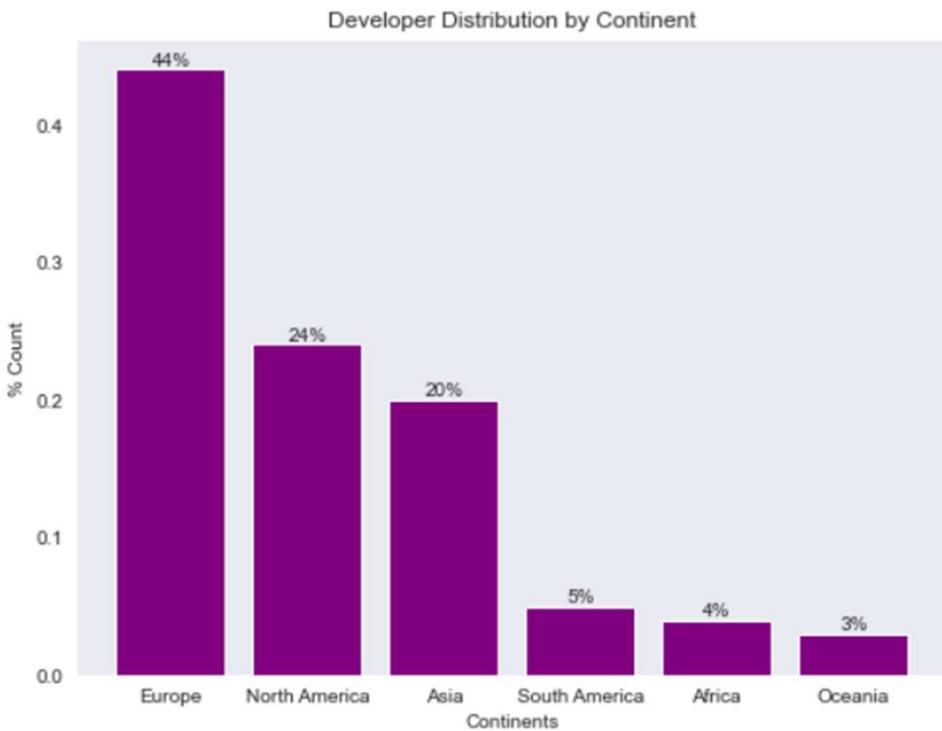
THE DATA USED

- ❖ The data comes from the Stack Overflow annual developer survey for 2022.
- ❖ It contains 73,268 responses and 79 features, i.e., 79 data points about each developer.



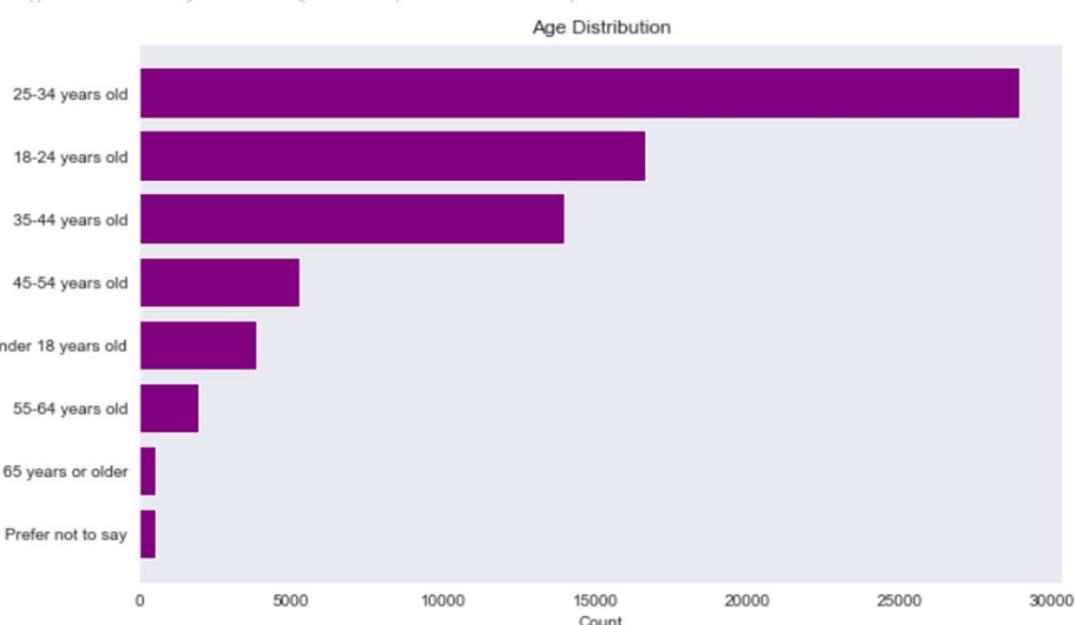
INSIGHTS FROM
THE DATA

DEVELOPER DISTRIBUTION BY CONTINENT



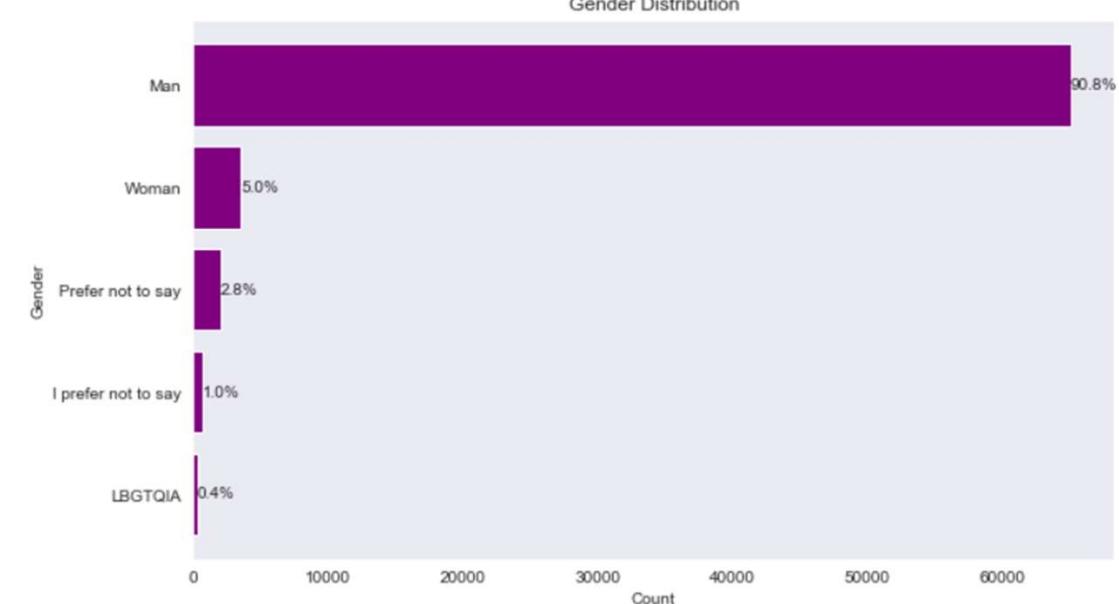
- ❖ **EUROPE** has the highest number of developers, which is almost twice the number of developers in the next continent
- ❖ Africa only had 4% of respondents in the survey.

AGE DISTRIBUTION



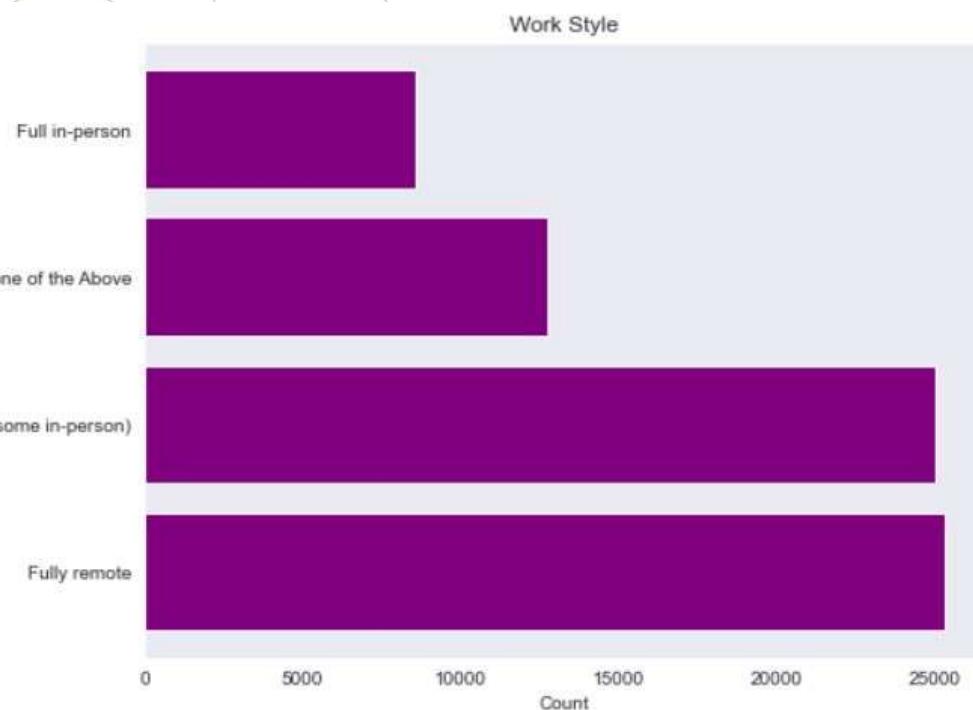
- ❖ Most developers are below 34 years old.
- ❖ There is a significant number of developers under 18 years old.

GENDER DISTRIBUTION



- ❖ A majority of respondents in the survey were male.
- ❖ This could indicate that tech space is a male dominated field.

REMOTE VS ONSITE

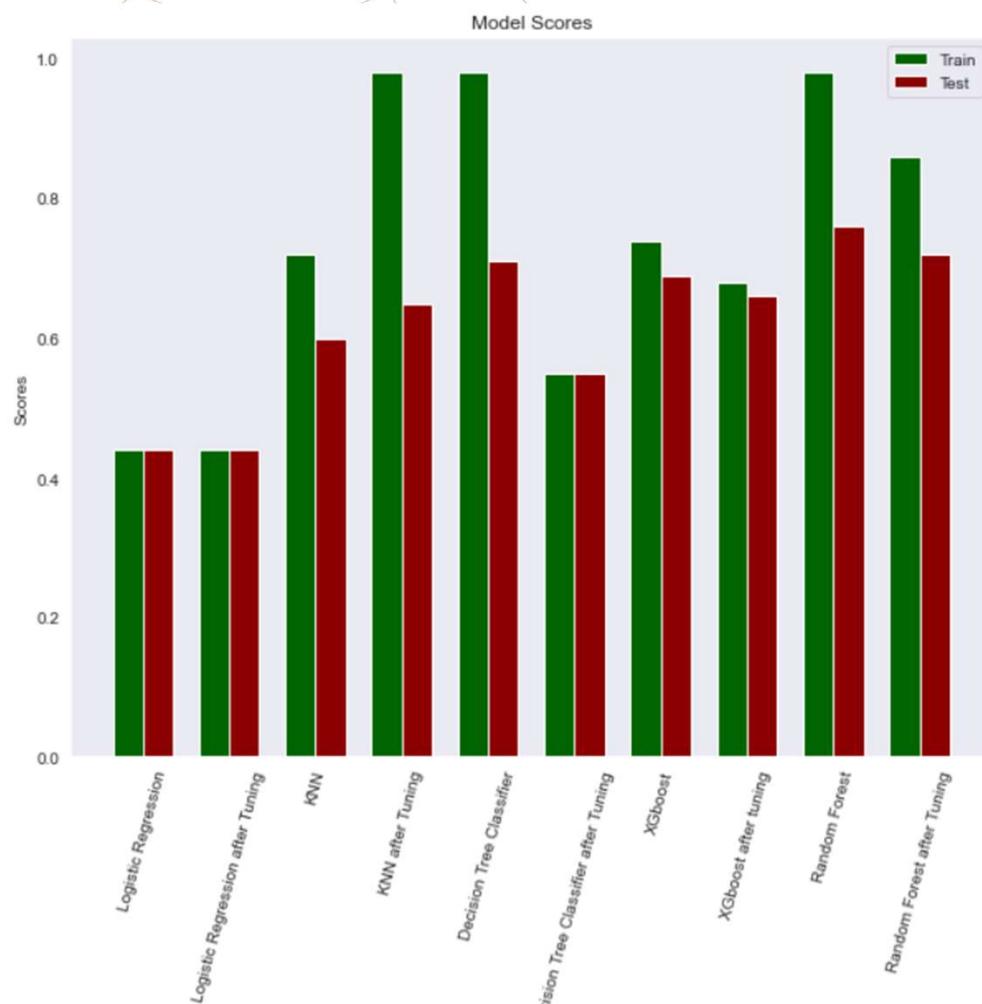


- ❖ The most popular work style was seen to be fully remote
- ❖ A fully in person work style was found to be the least popular.



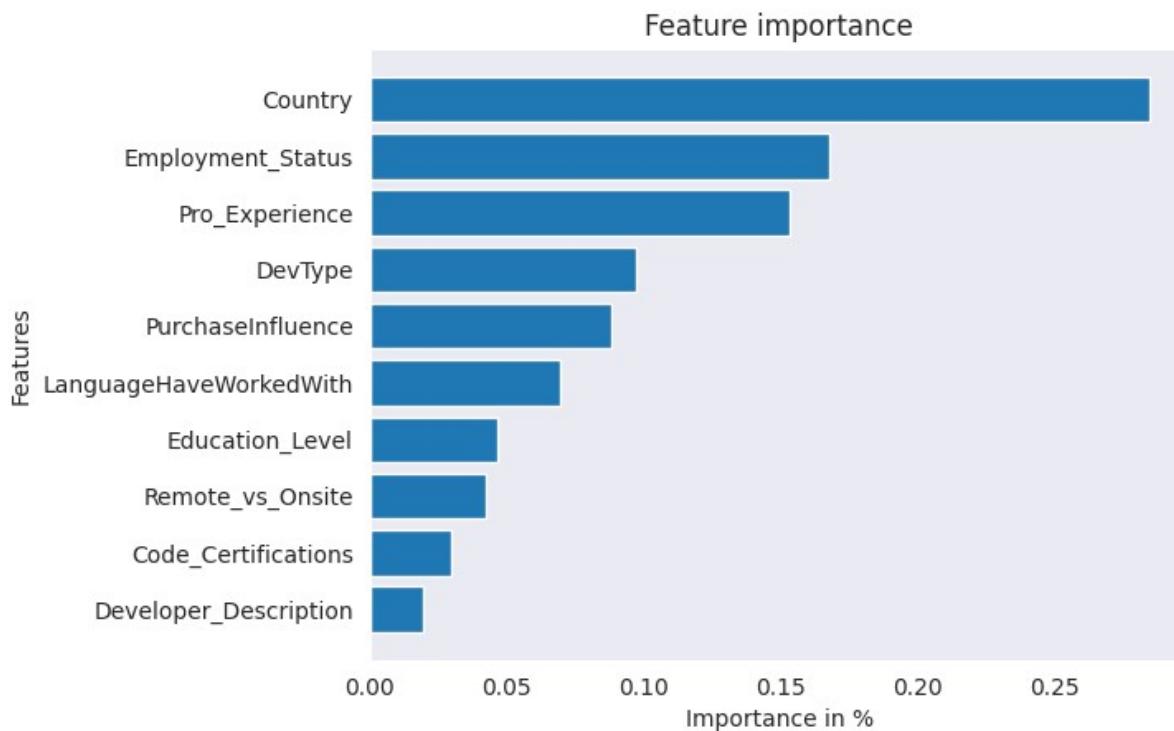
MODEL EVALUATION

MODEL SELECTION



- ❖ The best model was model 10:
(Tuned Random Forest)
- ❖ It obtained an accuracy score of 72% which is above the target set for this project.

FEATURE IMPORTANCE

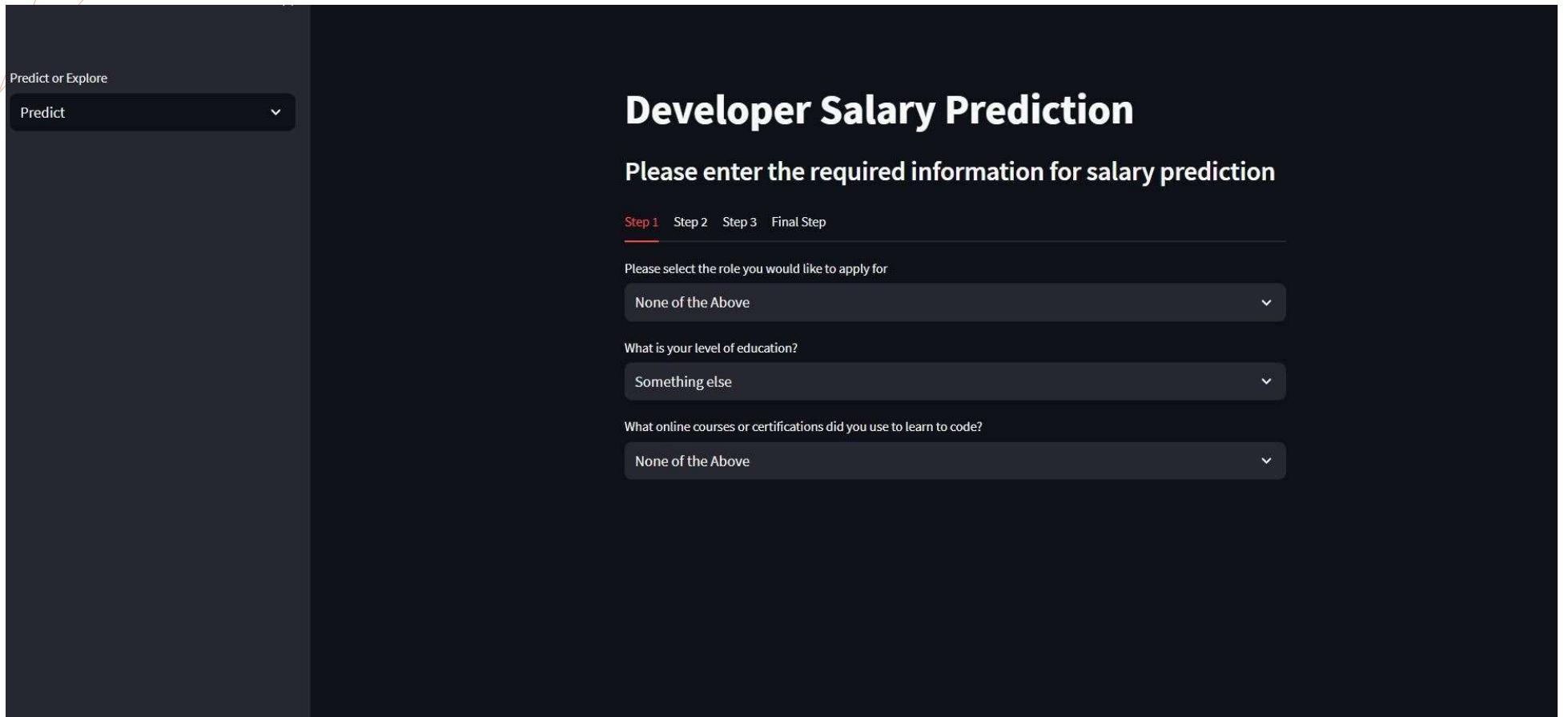


- ❖ The most important feature in predicting salaries is the **country**
- ❖ It accounts for more than **25%** of the weight of the model.

CONCLUSION

- ❖ There is need to have a reliable platform that can accurately predict salaries of developers based on their different skillsets and experience.
- ❖ This project utilizes machine learning models to predict these salaries.
- ❖ The output of these models can be accessed through a web application that can be seen in the next slide

DEPLOYMENT WEB APP



The screenshot shows a dark-themed web application interface. On the left, there is a sidebar with the title "Predict or Explore" and a dropdown menu set to "Predict". The main content area has a large title "Developer Salary Prediction" and a subtitle "Please enter the required information for salary prediction". Below this, there is a navigation bar with tabs: "Step 1" (which is red and underlined), "Step 2", "Step 3", and "Final Step". A horizontal line separates this from the form fields. The first field is a dropdown labeled "Please select the role you would like to apply for", with the option "None of the Above" selected. The second field is a dropdown labeled "What is your level of education?", with the option "Something else" selected. The third field is a dropdown labeled "What online courses or certifications did you use to learn to code?", with the option "None of the Above" selected.

Predict or Explore

Predict

Developer Salary Prediction

Please enter the required information for salary prediction

Step 1 Step 2 Step 3 Final Step

Please select the role you would like to apply for

None of the Above

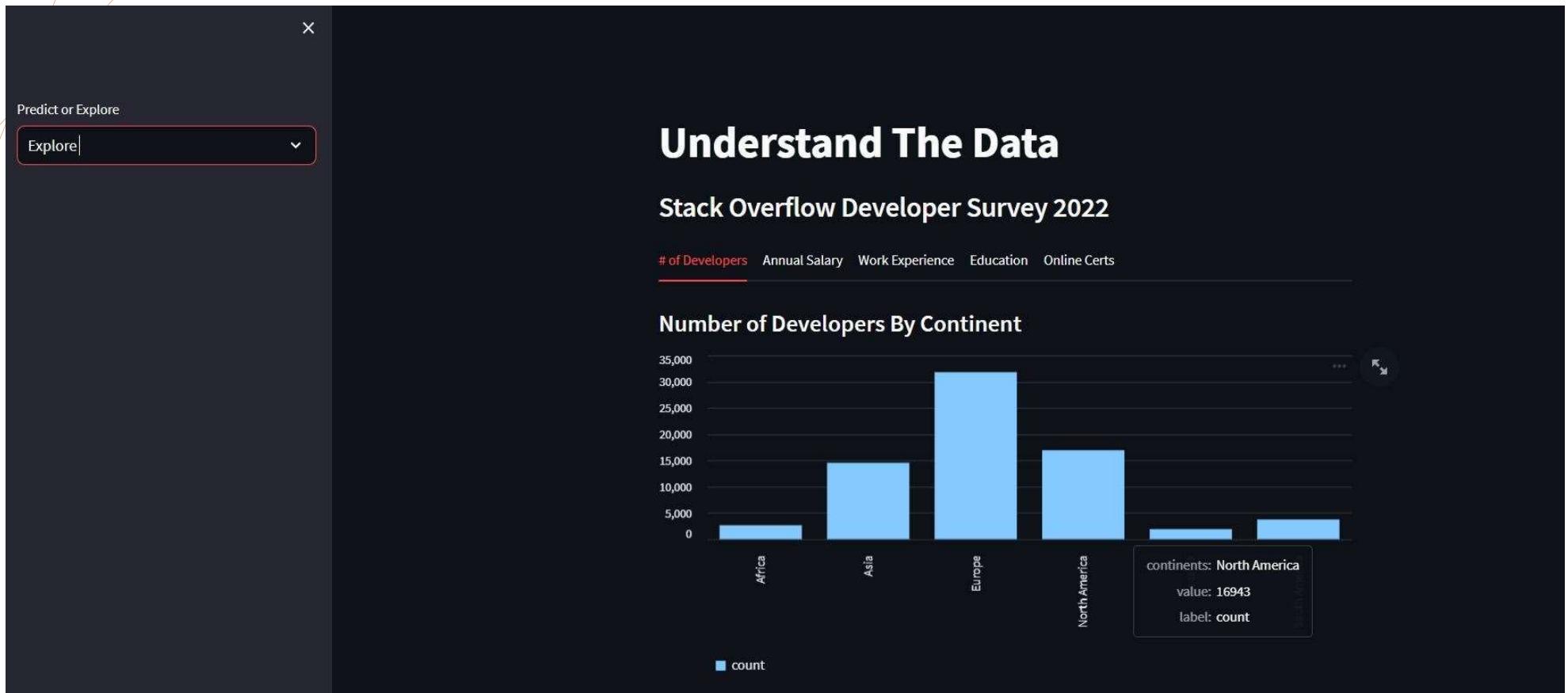
What is your level of education?

Something else

What online courses or certifications did you use to learn to code?

None of the Above

DEPLOYMENT WEB APP



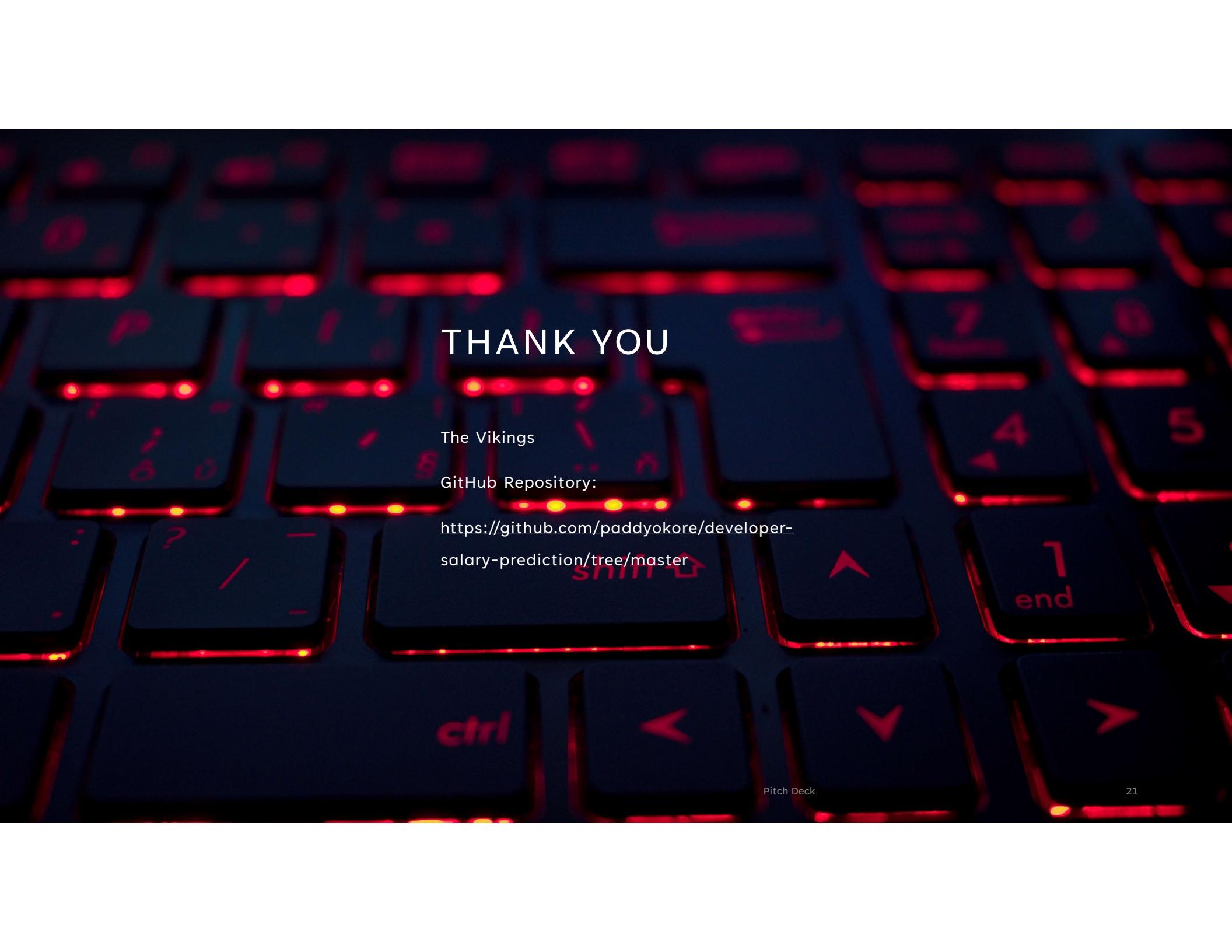


NEXT STEPS

- ❖ To collect of more data, especially of salaries from the under-represented regions such as Africa.

MEET THE TEAM

1. Abdikarim Gedi - <https://www.linkedin.com/in/abdikarim-gedi-mohamed-1202b5200/>
2. James Wainaina - <https://www.linkedin.com/in/james-wainaina-a578b0234/>
3. Patrick Okore - <https://www.linkedin.com/in/patrick-okore-ba45aa21/>
4. Rosemary Mburu - <https://www.linkedin.com/in/nyakio-mburu-68995a201/>
5. Samuel Kyalo - <https://www.linkedin.com/in/samuel-k-b2654995/>
6. Sharon Sonia - <https://www.linkedin.com/in/sharon-atieno-627741271/>



THANK YOU

The Vikings

GitHub Repository:

<https://github.com/paddyokore/developer-salary-prediction/tree/master>