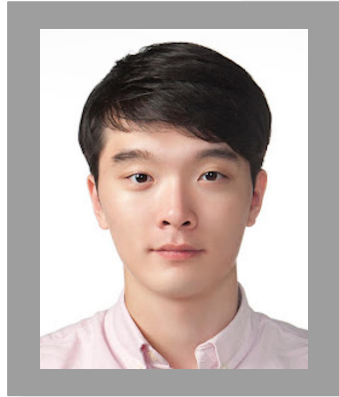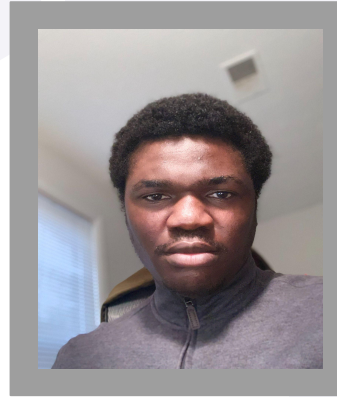# Increasing Seasonal Flu Vaccination Rate

Meet the Team!

Soo Ho (John) Park
Data Scientist

Timi Adejumo
Data Scientist

AGENDA

Business Understanding

Suggestions

Questions?

1

3

5

2

4

Data Analysis

Future Implementation

1

Business Understanding

<u>Stakeholders</u>

- **Vaccine Advocacy Non-Governmental Organization**

1. **FLU HEROES is seeking newer, innovative ways to increase the annual seasonal vaccine shot rate nationwide**

2. **What backgrounds, opinions, or health behaviors predict personal vaccination patterns?**

Respondents' Opinion On

Risk

Without vaccine

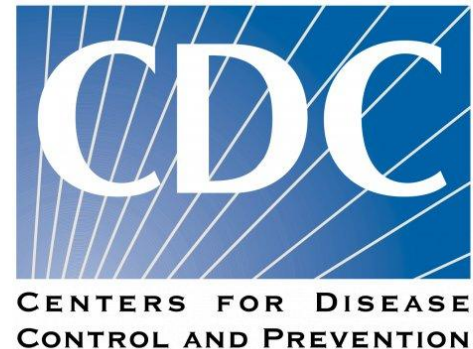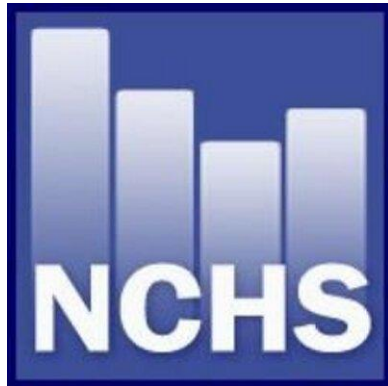## Effectiveness

Of vaccine

Credibility

From doctors

Tailor Advertisement on These Topics
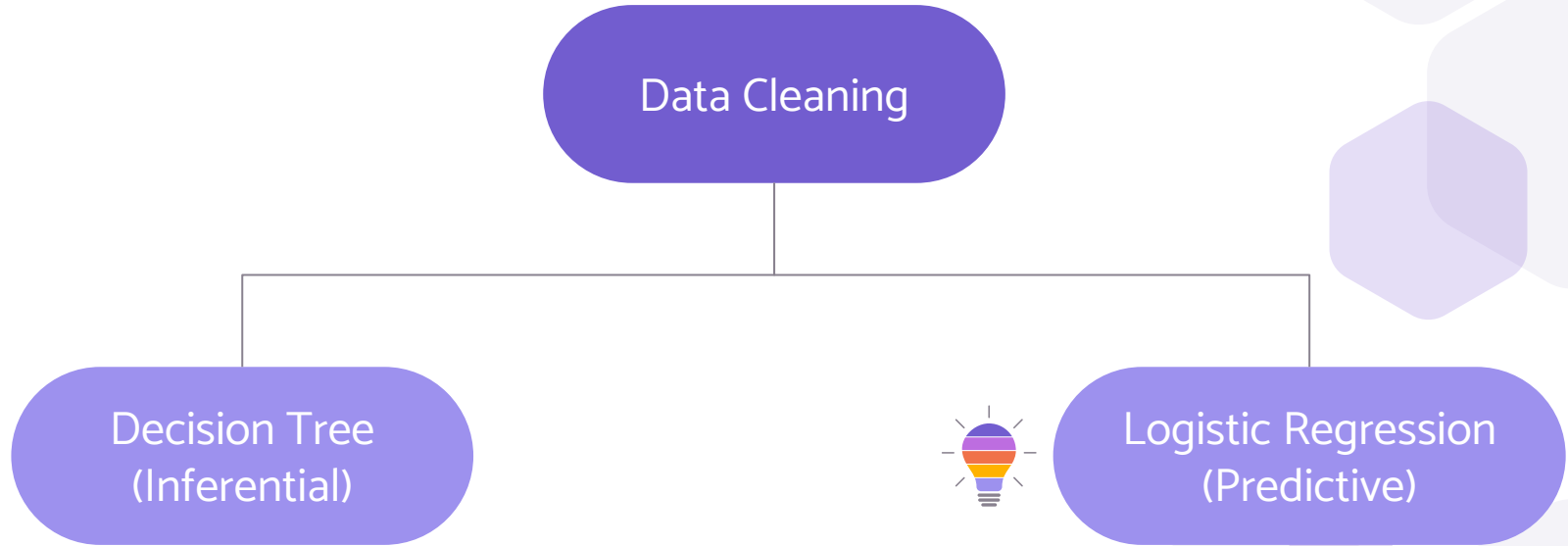
Data from 2009 Seasonal Flu Survey

- ## 26k respondents participated in survey
  - Centers for Disease Control and Prevention (CDC)
  - National Center for Health Statistics (NCHS)
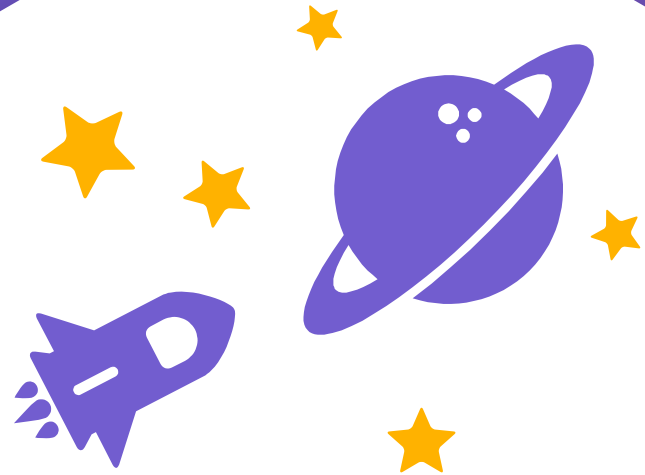 - National Center for Immunization and Respiratory Diseases (NCIRD)

Machine Learning Models

Data Cleaning

Decision Tree
(Inferential)
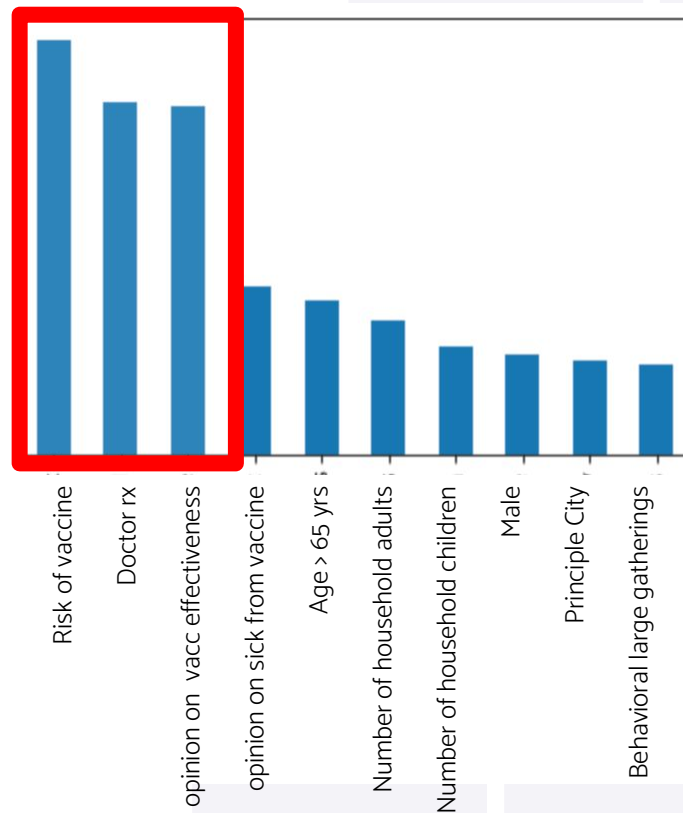
Logistic Regression
(Predictive)

Model Accuracy

78%

Campaign Focus

1. Respondent's **opinion about risk** of getting sick with seasonal flu without vaccine.
2. Respondent's opinion about **seasonal flu vaccine effectiveness.**
3. Seasonal flu vaccine was **recommended by doctor.**

Top 10 Feature Importance

~50 out of every 100 respondents

felt there was a risk if one did not receive the vaccine

If recommended by the physician

92 out of 100

received the seasonal flu vaccine

3 out of 4

respondents believed that the vaccine was of any effect in preventing sickness

Recommendation

- **Tailor advertisements that can raise awareness on:**
    - **Risk of not receiving vaccine**
    - **Vaccine Effectiveness**
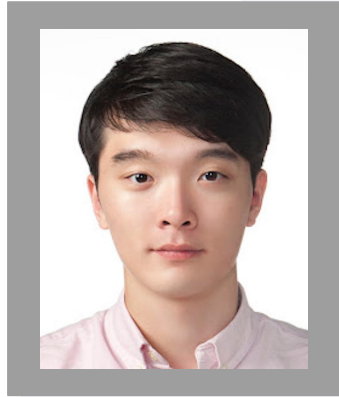   - **Doctor's Recommendation**

Future Implementations

- **Pinpoint Target Audience**
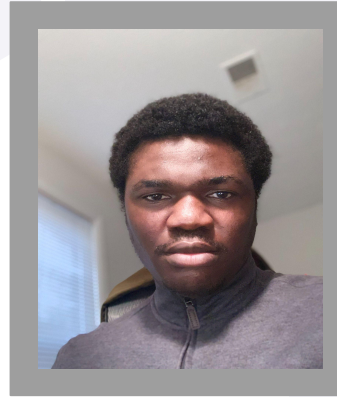- **Apply Knowledge from other pandemics**
  - Covid-19, SARS, H1N1

Thanks!
Any Questions?

Soo Ho (John) Park
Data Scientist

Timi Adejumo
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