PREDICTING VACCINATION RATES

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BUSINESS OBJECTIVES

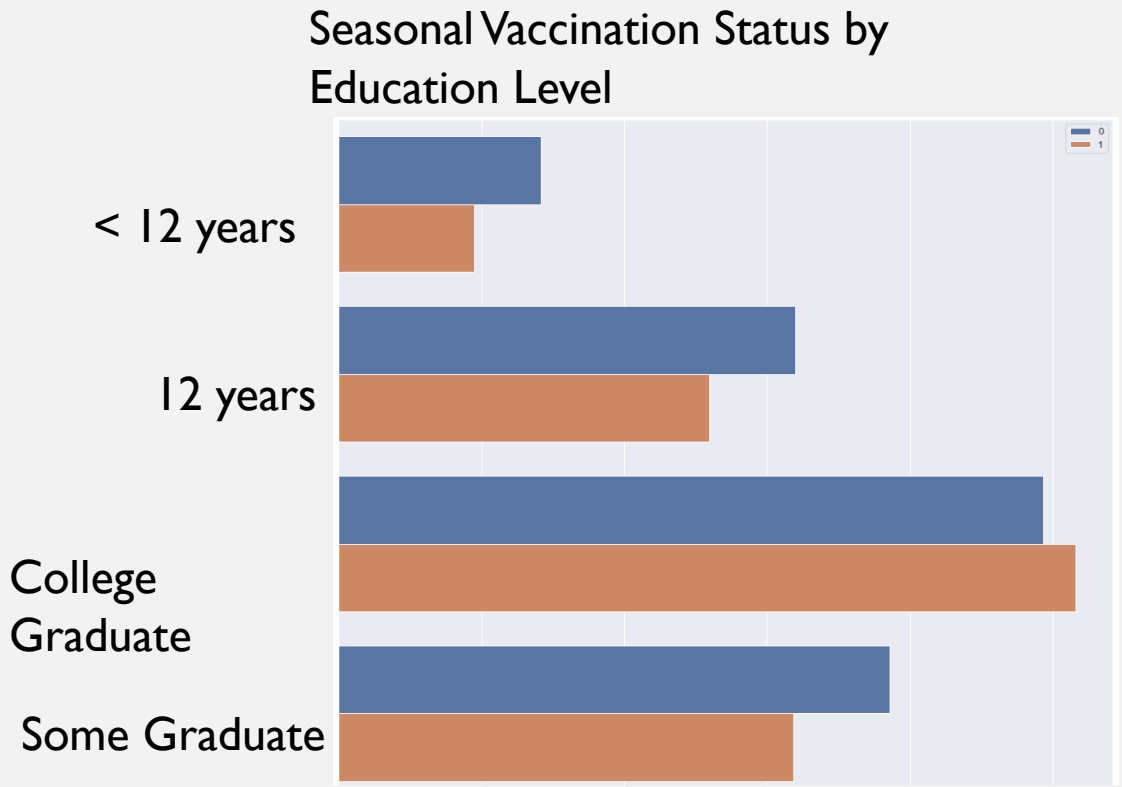
- The Covid– 19 pandemic exposed the ineffectiveness of vaccination policies.
- Vaccinations are effective in preventing deaths or adverse effects of viruses.
- Reviewed data on the seasonal flu to predict whether a patient should get a vaccination.
- Created a model aimed to identify as many people who require vaccination.

DATA

- The data set contains data on the H1N1 pandemic of 2009 and the seasonal flu.
- In this study, we will only be focused on the features and predicting vaccination for the seasonal flu.
- The training data for the model contains around 26 thousands records and 35 data features.
- Key features include: age, race, educational level, doctors recommendation.

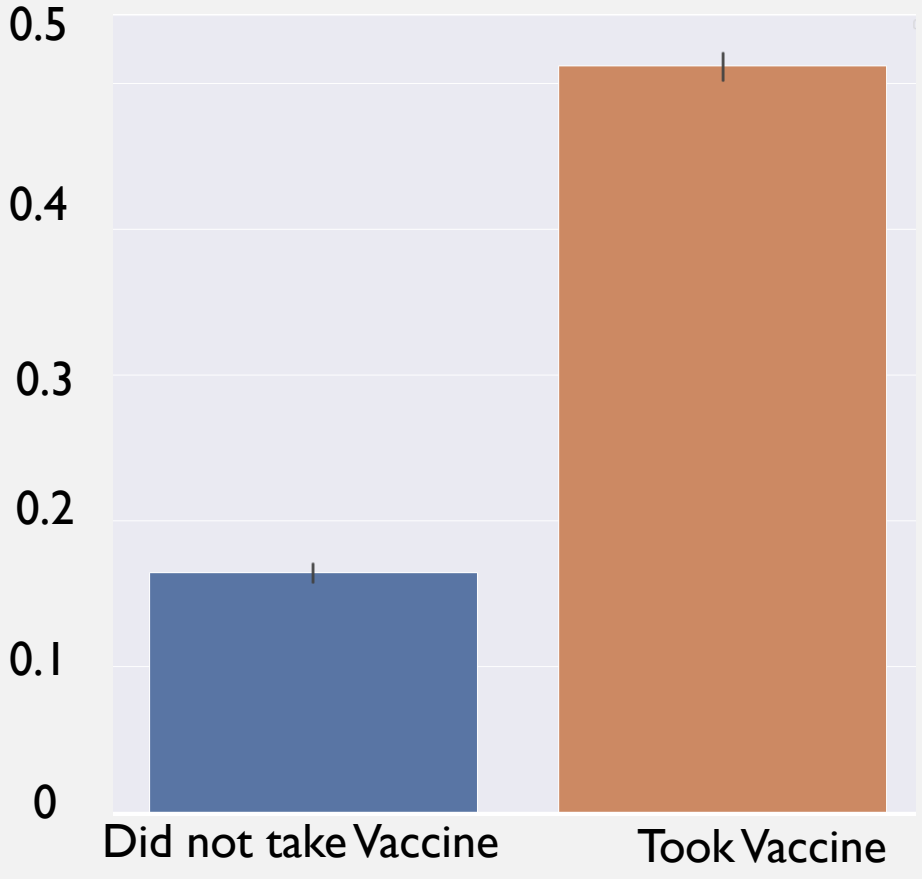
DATA EXPLORATION - EDUCATION

- Higher education generally correlates with higher vaccination rates.



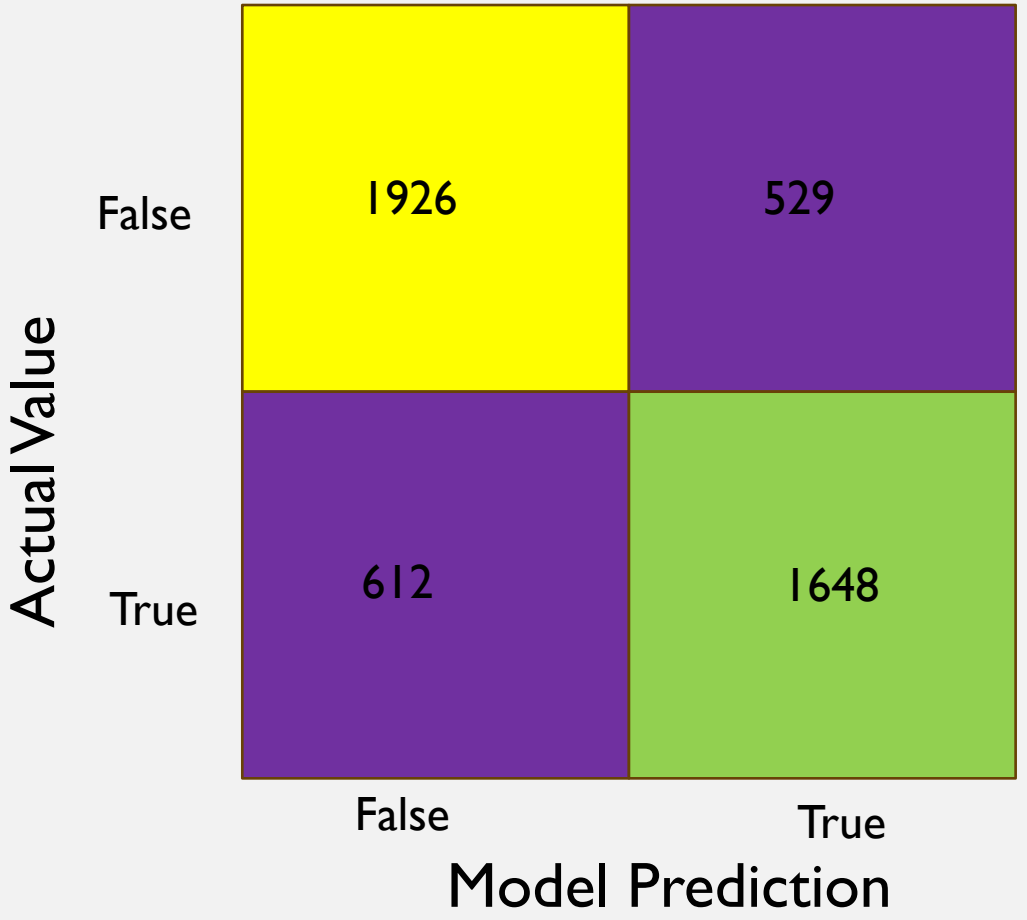
DATA EXPLORATION – DOCTORS RECOMMENDATION

- People who got a doctor's recommendation are almost 3 times as likely to take a vaccine.



MODEL RESULTS

- The final model was selected on reducing False negatives
- It had an accuracy of 76%.
- Recall of 76%



RECOMMENDATIONS

- Focus on ensuring that doctor's give vaccine recommendations.
- Target groups with less education for vaccine outreach.
- Optimize on identifying patients who need the vaccine.

FUTURE PROJECTS

- Apply different models to different populations. Reduce false negatives in vurnerable populations, but reduce false positives in healthier ones.

CONTACT INFORMATION

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