# RACIAL BIAS IN POLICING | DATA2020 FINAL PROJECT SUMMARY

*Team Impressive Scientists | Ryan Hedges, Yueyi Sun, and Zejiang Shen*

In recent years, there have been several high-profile deaths of African American citizens caused by the actions of police officers, such as Michael Brown in Ferguson, Missouri, Freddie Gray in Baltimore, Maryland, and Laquon McDonald in Chicago, Illinois. The heightened press and attention of these events have spurred significant scrutiny and questioning over whether police exercise bias against African Americans. While there are surely cases of racist and dishonest individuals who are more prone to act adversely against African Americans, is there actually a more widespread generalized bias against African Americans?

In this investigative report, we apply a statistically rigorous approach to investigating whether police exercise bias in their treatment against African Americans. Specifically, we try to answer the question of whether being an African American makes you more likely to be killed by the police. The primary challenge that we faced and that historical analyses have faced is related to the available data, as the data that exists only captures people that were killed, and not the people that were not killed under similar circumstances.

This project leverages 2015 census data and a dataset of police killings in 2015. Through extensive exploratory analyses and hypothesis testing, we convincingly exhibit how African Americans are killed at greater rates than people of other races, leading to our belief that we would find evidence of bias in our more comprehensive modeling section. However, the higher killing rate of African Americans is at least partially driven by correlations to factors such as unemployment rate, education level, and average income. We employ three models: a <Poisson Regression model with state-level observations>, a <Logistic Regression model with county-level observations>, and a <Zero-Inflated Poisson Regression model with county-level observations>, to account for many of these confounding factors. We are only able to find mild evidence explicitly suggesting that being an African American makes you more likely to be killed than others, given identical scenarios. Therefore, we are unable to confirm our suspicion that being African American directly increases your likelihood of being killed. We believe that more comprehensive datasets are necessary in order to potentially arrive at a statistically sound confirmation of racial bias.