

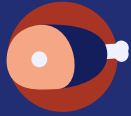


Hunger in America

Projecting Food Insecurity Rates in the US

Flatiron Data Science Capstone
By Khyatee Desai

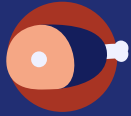
Background



Food insecurity

is the inability
to **reliably**
obtain enough
food, due to a
lack of resources

Background



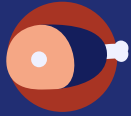
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Business Problem



Currently, food
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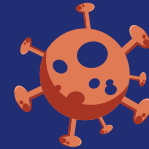
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Goal



This project aims
to predict
current food
insecurity rates

The Data

10 years

55 datasets

1 million rows

Disability status

Meal cost

Education level

Median income

Household size

Race

Vehicle access

Food proximity

Food assistance

Houselessness

Gender

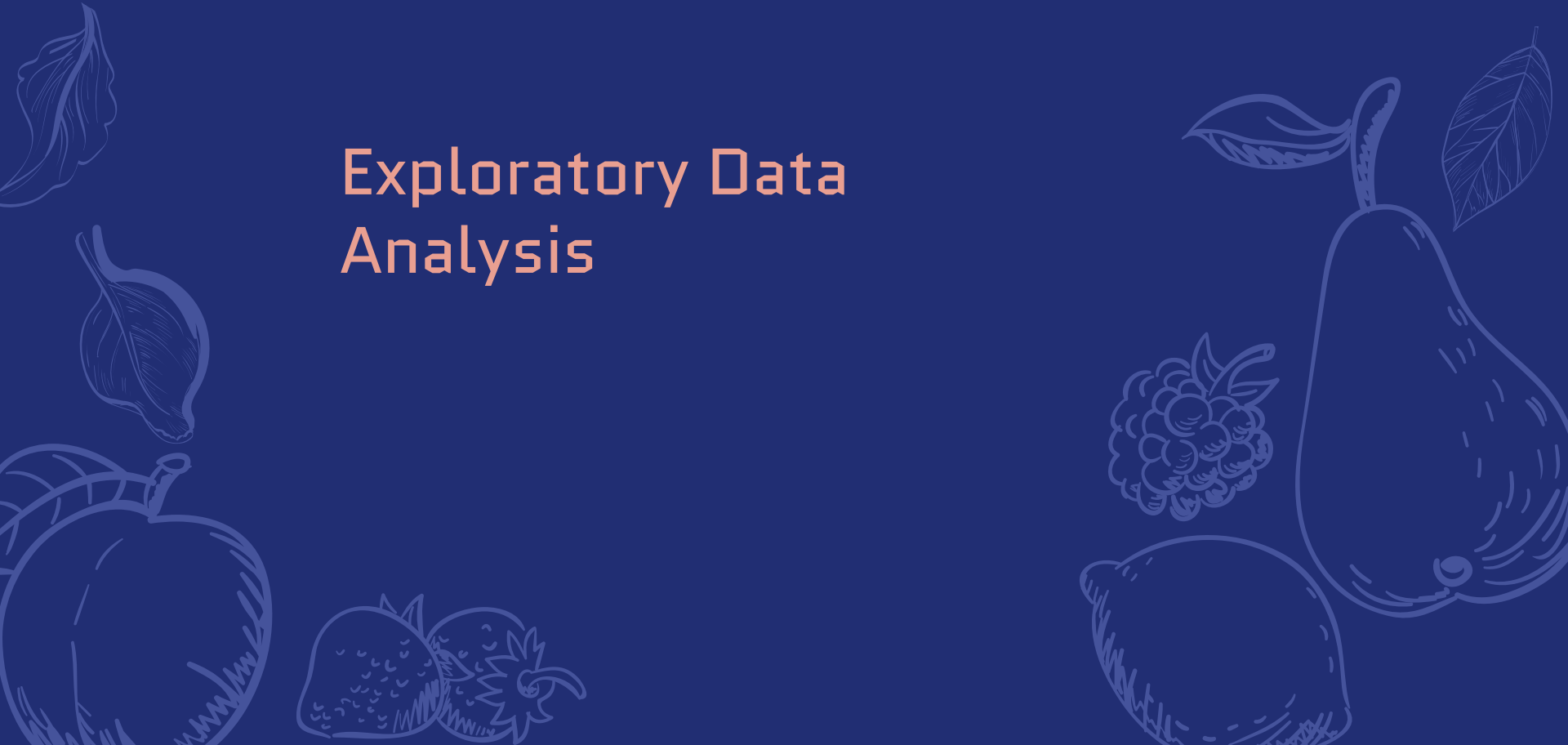
Employment Status

Rent prices

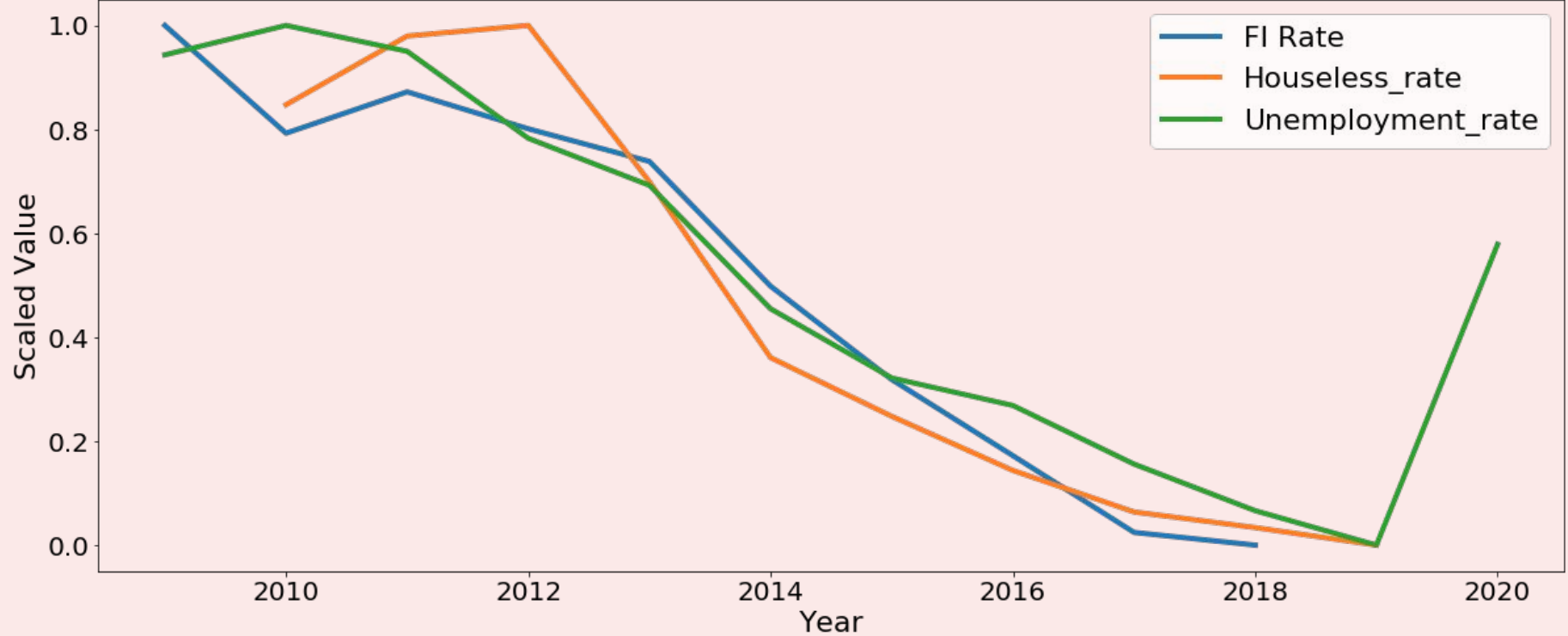
Health insurance



Exploratory Data Analysis

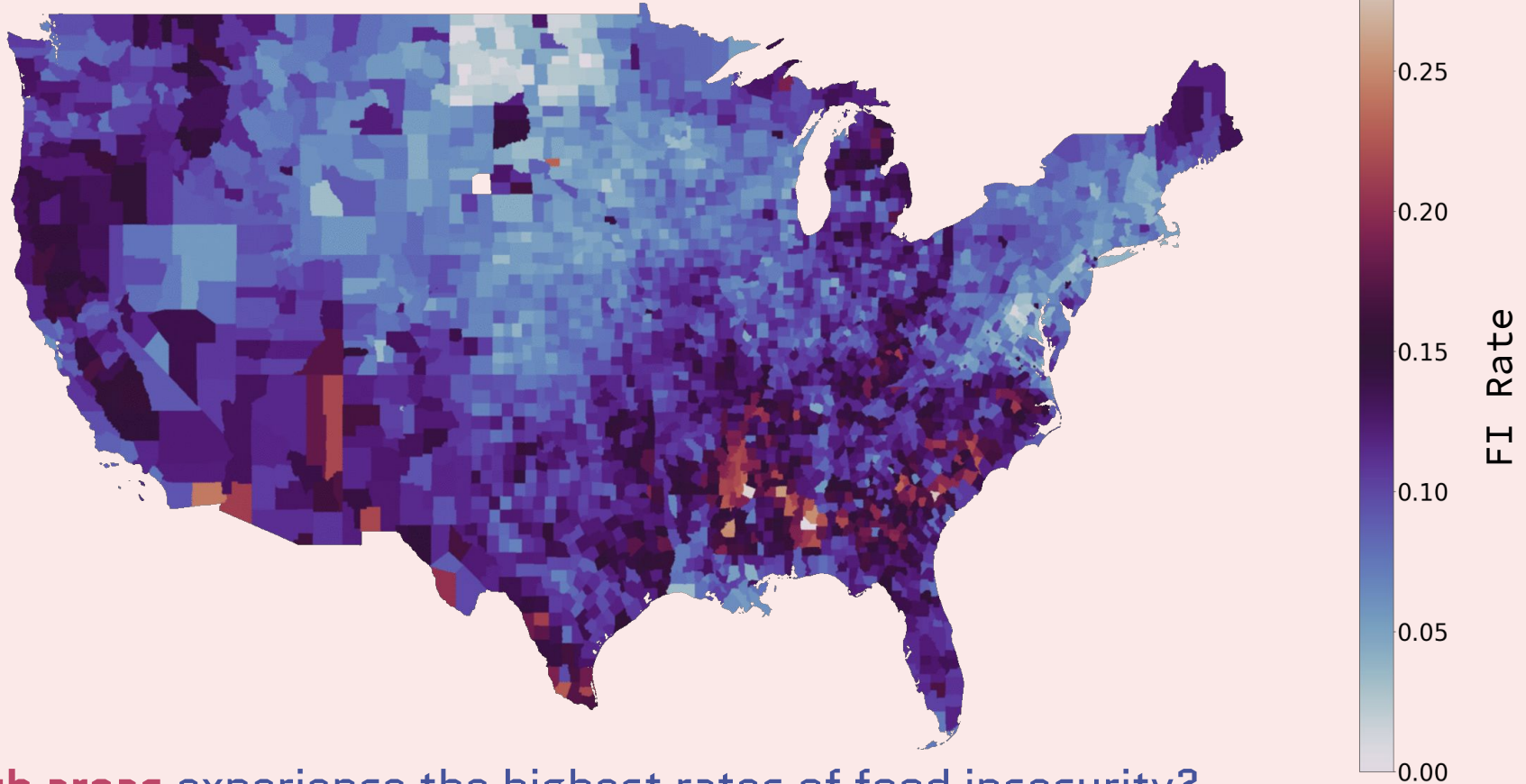


Food Insecurity, Houselessness, and Unemployment Rates, by Year



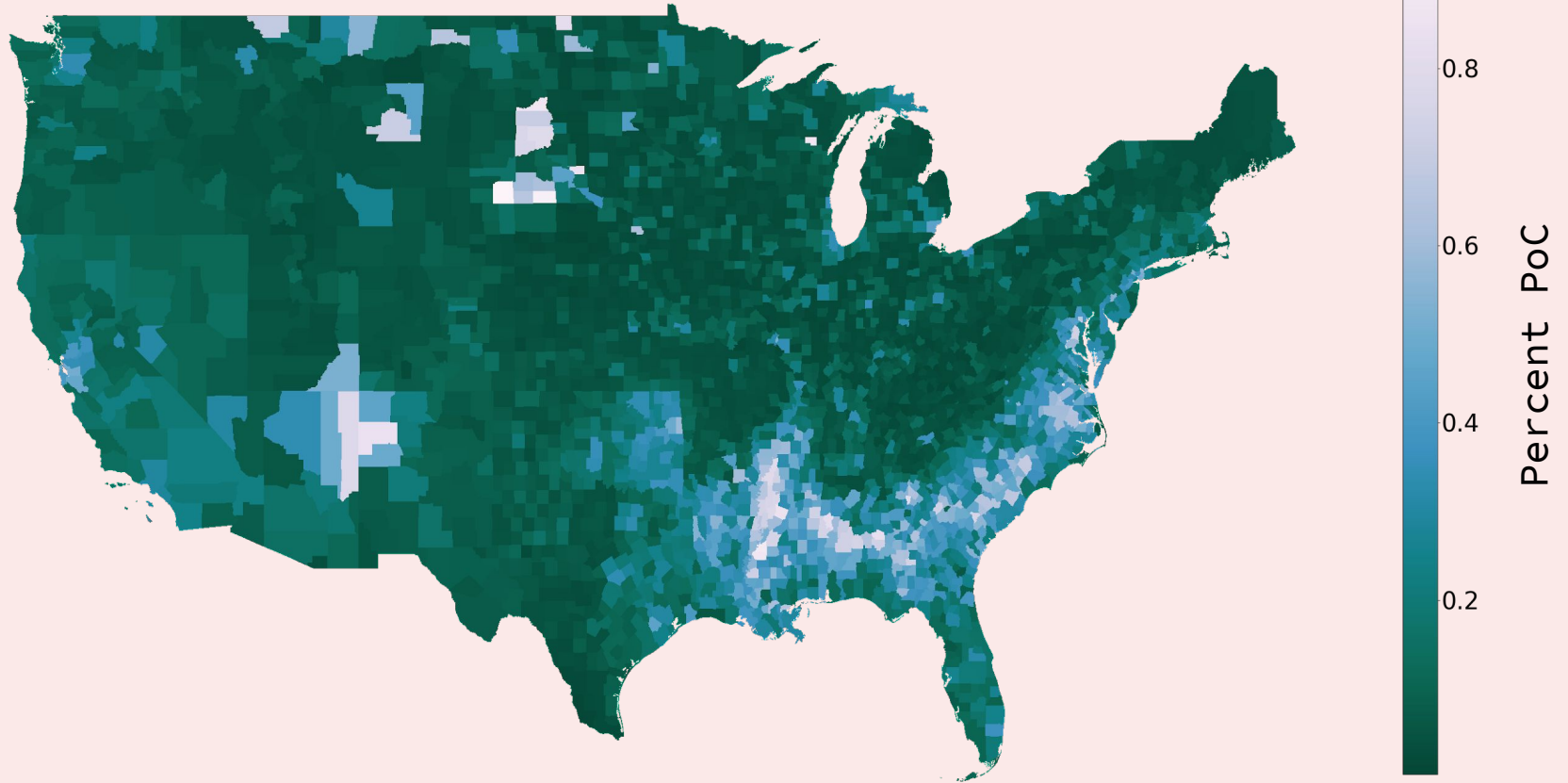
How has food insecurity rate changed **over time**?

Food Insecurity Rates, 2009



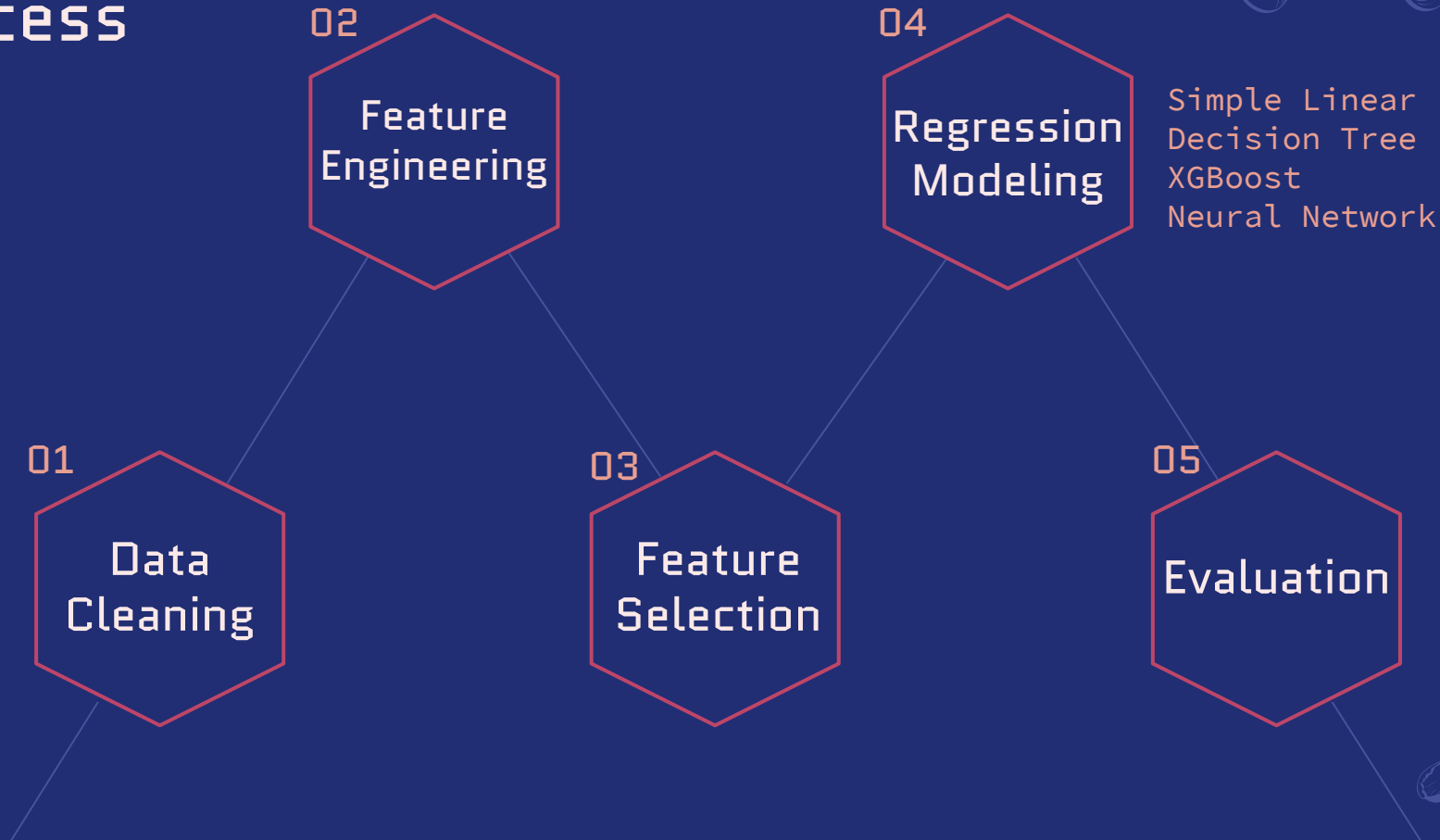
Which areas experience the highest rates of food insecurity?

Percent People of Color by County, 2020




How does food insecurity **relate** to other variables?

Modeling Process





R ²	0.884
RMSE	0.0139




Model explains 88% of data variance
Predictions off by 1.4% on average

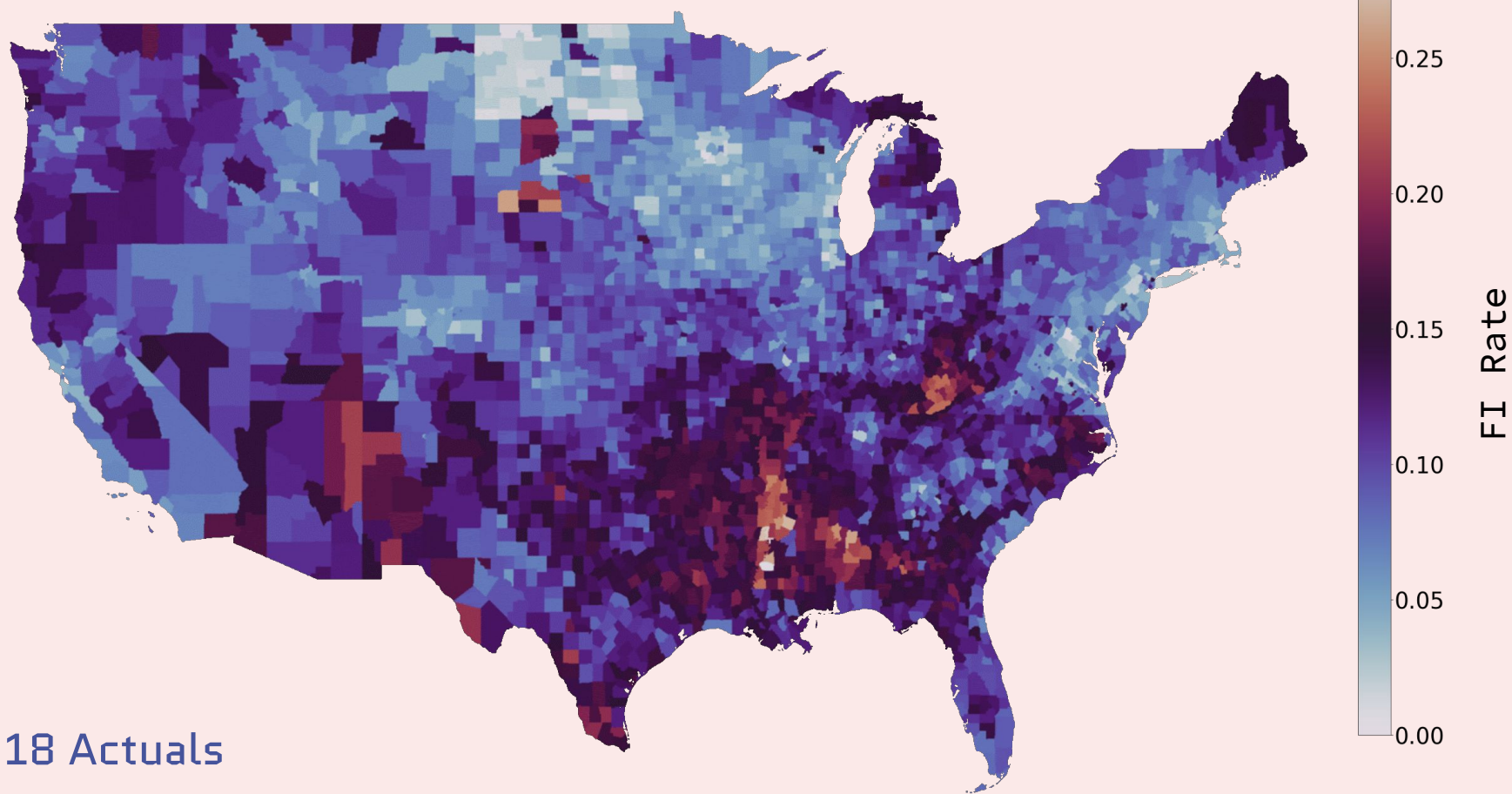
Decision Tree Model Evaluation

Feature Importance

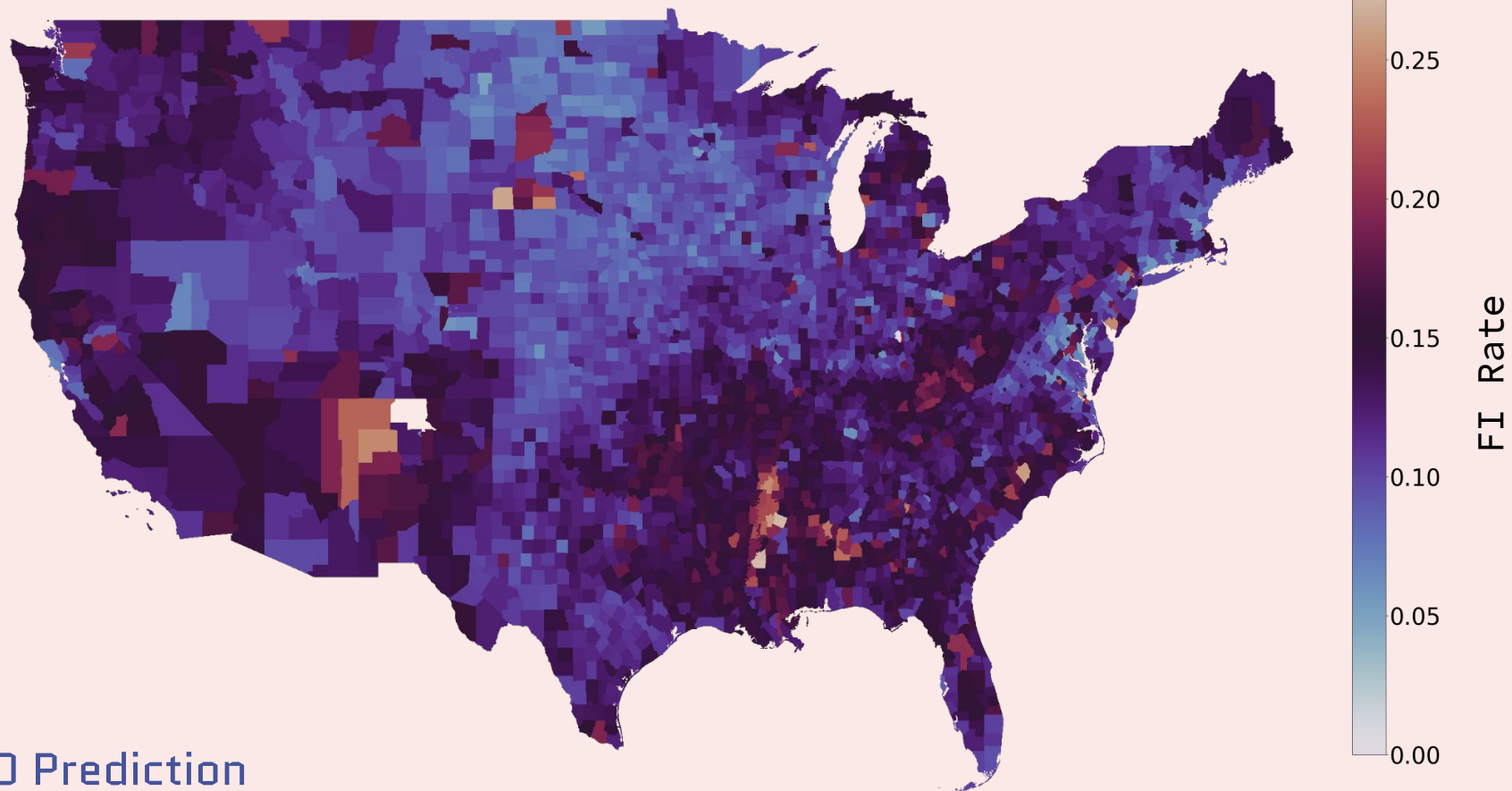
Unemployment_rate_X_Percent_Black
percent_hh_poverty
Percent_disabled
Cost Per Meal_X_Percent_white
hh_med_income
Percent_white_X_Percent_priv_health
Unsheltered_rate



Food Insecurity Rates, 2018



Model Predicted Food Insecurity Rates, 2020



2020 Prediction

Conclusion & Next Steps



Forecast future food
insecurity rates

Expand the scope to
other countries

Contact



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Full project viewable at

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Thank you to my instructors, coaches, and cohort at the Flatiron School!

