

**MICHIGAN STATE**  
**UNIVERSITY**

# Beta Presentation

Machine Learning for Optimization of Carbon Removal

## The Capstone Experience

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*From Students...  
...to Professionals*

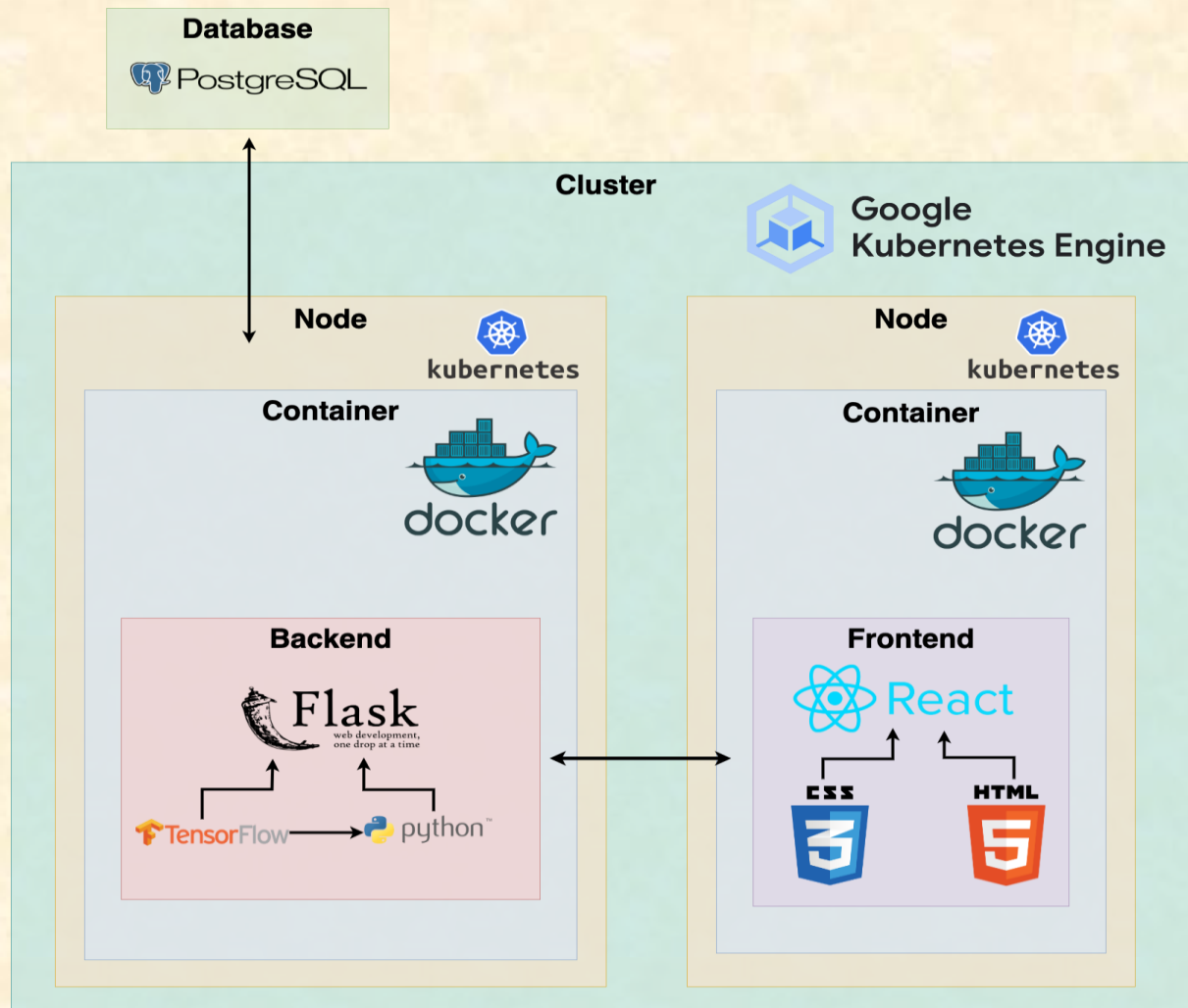
# Project Overview

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- Carbon removal is crucial for mitigating climate change.
- An interactive web app displaying heatmaps to show the best location to implement carbon removal techniques.
- Helps investors, government agencies, etc



# System Architecture



# Landing Page

## Climate Solutions - Optimized

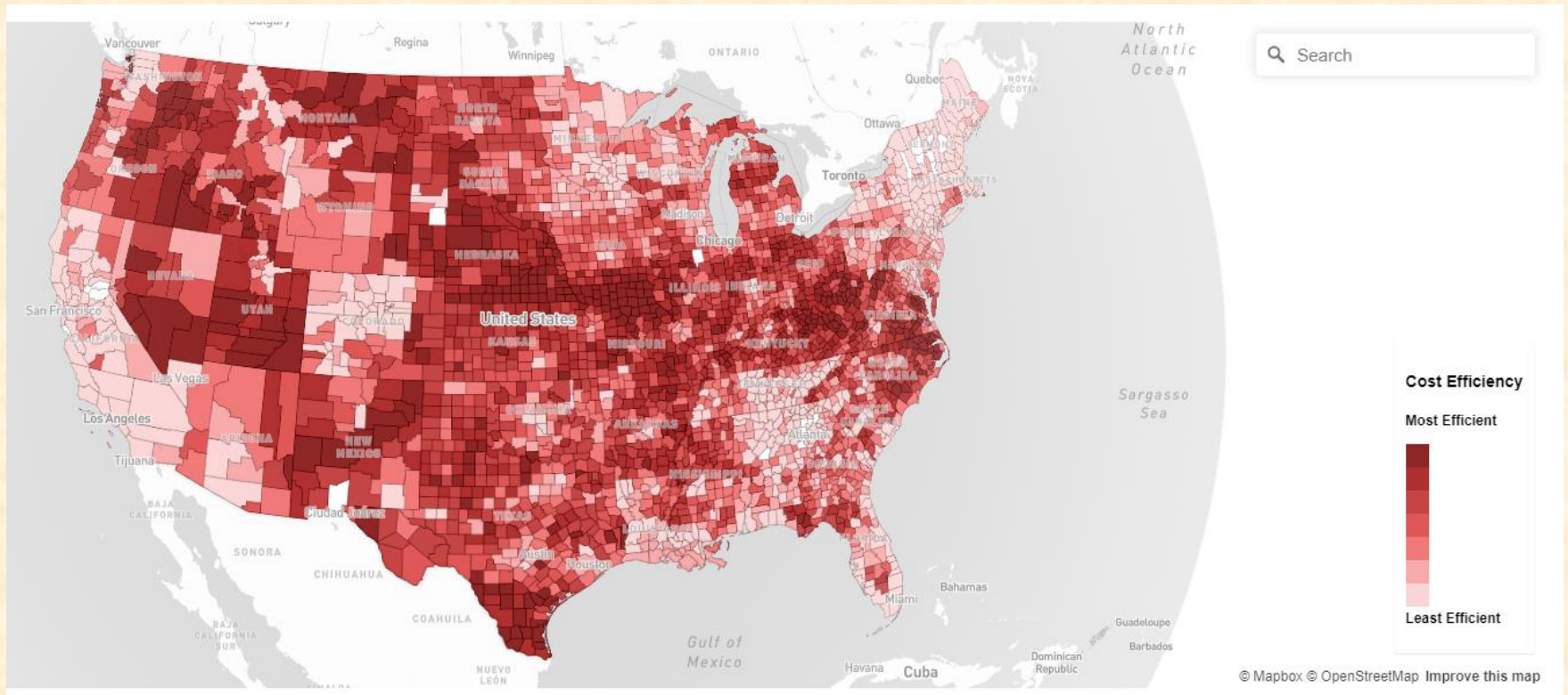
We provide companies and agencies with the artificial intelligence tools necessary for completing their sustainability projects in the most efficient way possible.

## Optimization Tools

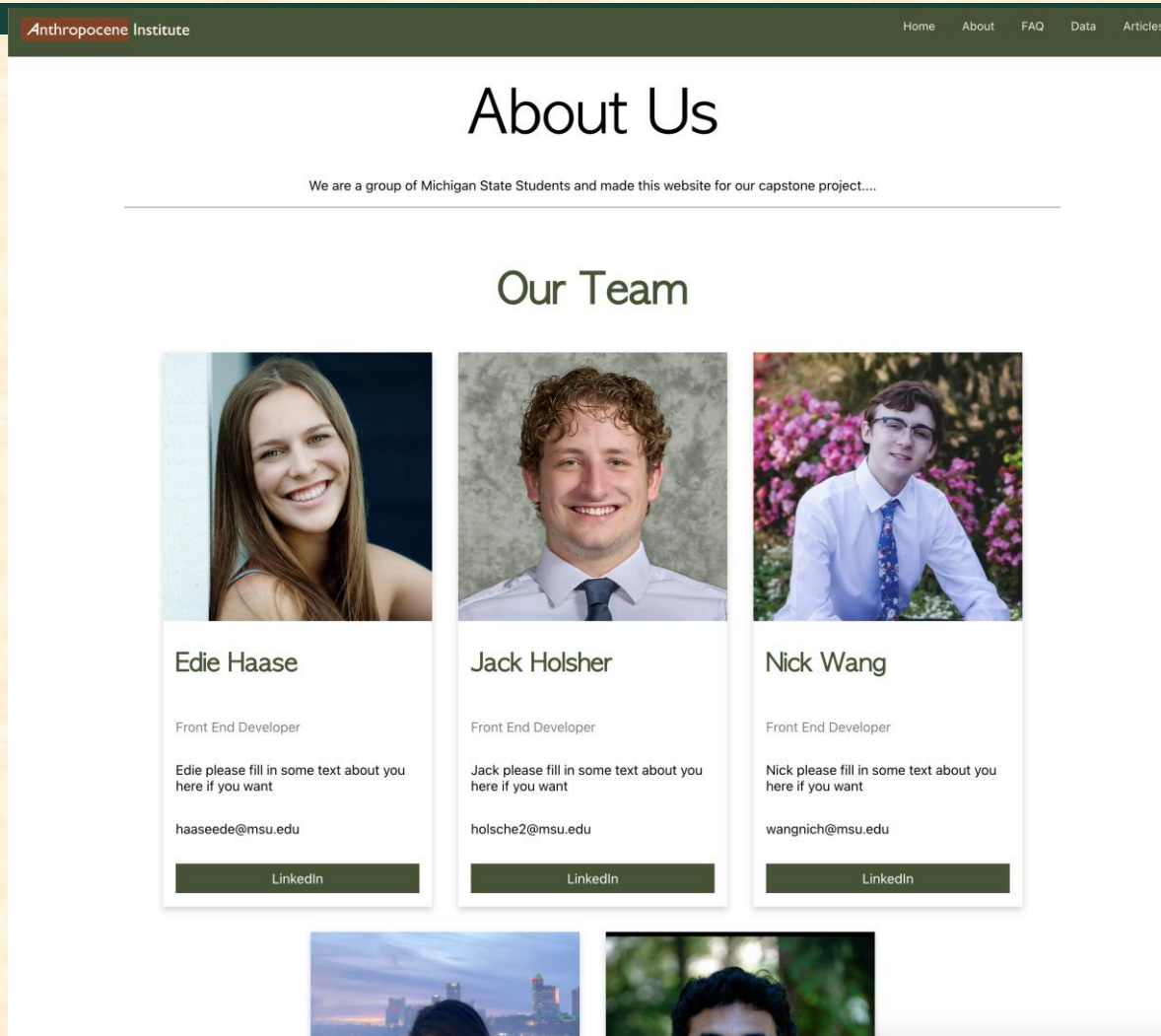
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# DAC Map




# About Page




# Articles Page


Anthropocene Institute Home About FAQ Data Articles




Direct Air Capture - Learn More!





Algae Blooms - Learn More!



Reforestation - Learn More!



water emissions CO<sub>2</sub> fuel electricity



# What's left to do?

- Features
  - Feature Complete!
- Stretch Goals
  - Reduce map loading time.
- Other Tasks
  - Refine UI based on feedback
  - Review text on all pages.





# Questions?

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# How do we get the final class + ML model?

- Sort each feature, divide into quantiles, assign each quantile a label.
- Row wise average, percentile rank for efficiency and categorize into classes 1-7.
- Train SVC model on the features to predict the final class. (linear kernel)
- Predicts final class with accuracy of 92% - 98% for the 3 techniques.

