

# Analyzing the spatiotemporal impact of Electric Vehicle (EV) policies: a comprehensive study of EV adoption and pollution Trends in the US

## Introduction

This project aims to perform a comprehensive analysis of the impact of Electric Vehicle (EV) policies and adoption rates across the United States. By leveraging spatial assessments and conducting extensive temporal series analyses, the research will explore the complex relationships between policy interventions, EV adoption trends, and their effects on air quality. The study will integrate structural equation modeling for social impact assessment with spatial-temporal models to identify spatial patterns and evaluate regional disparities. Through this multidimensional approach, the research aims to investigate the uneven impacts across various regions and provide informed policy recommendations.

## Faculty Voice

"Through this project, students took the initiative to explore different data sources, identify issues in the original data, and troubleshoot them. They also found ways to process the data so it could be better structured and organized. Additionally, they provided detailed documentation for each step, ensuring clarity and reproducibility of their work."

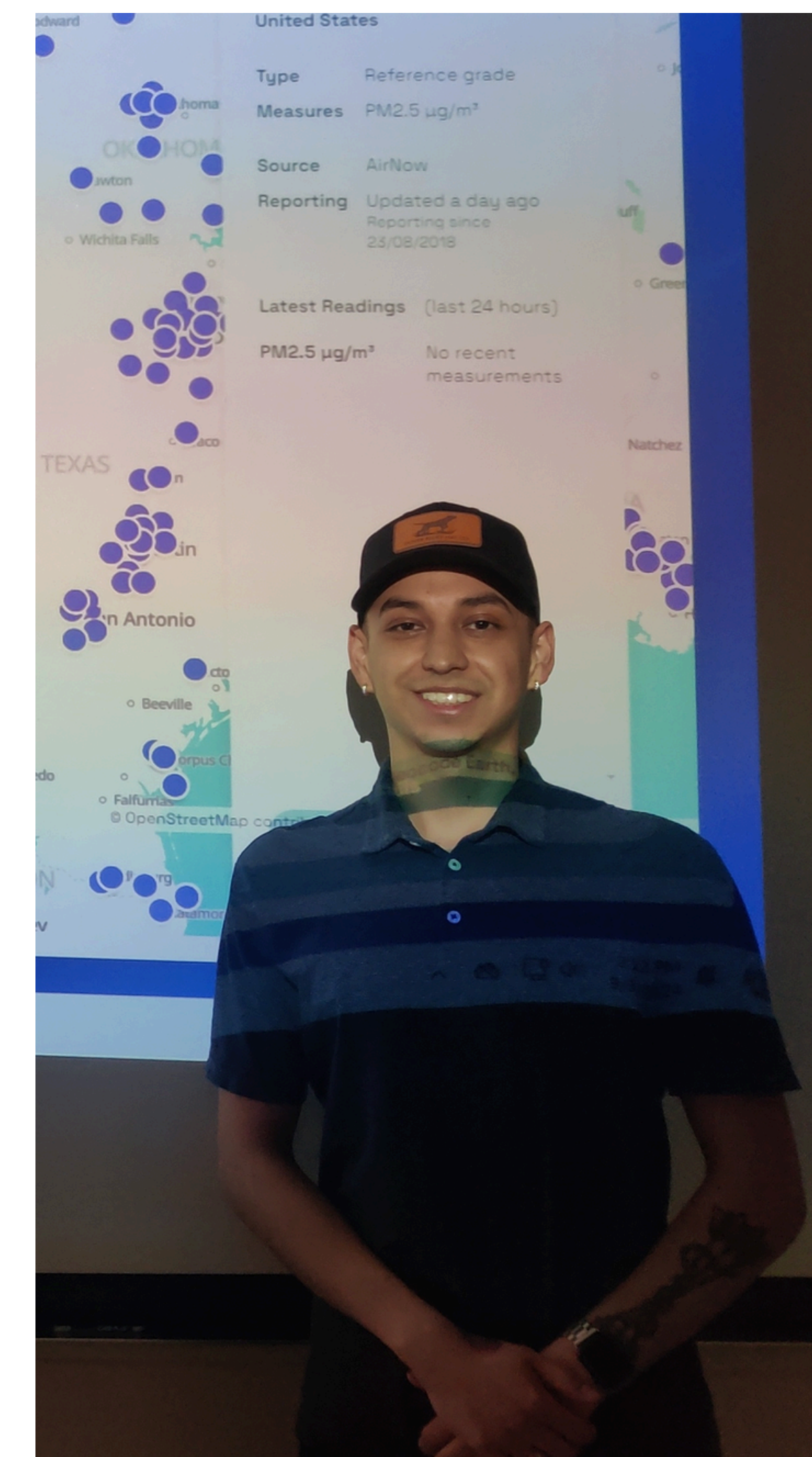
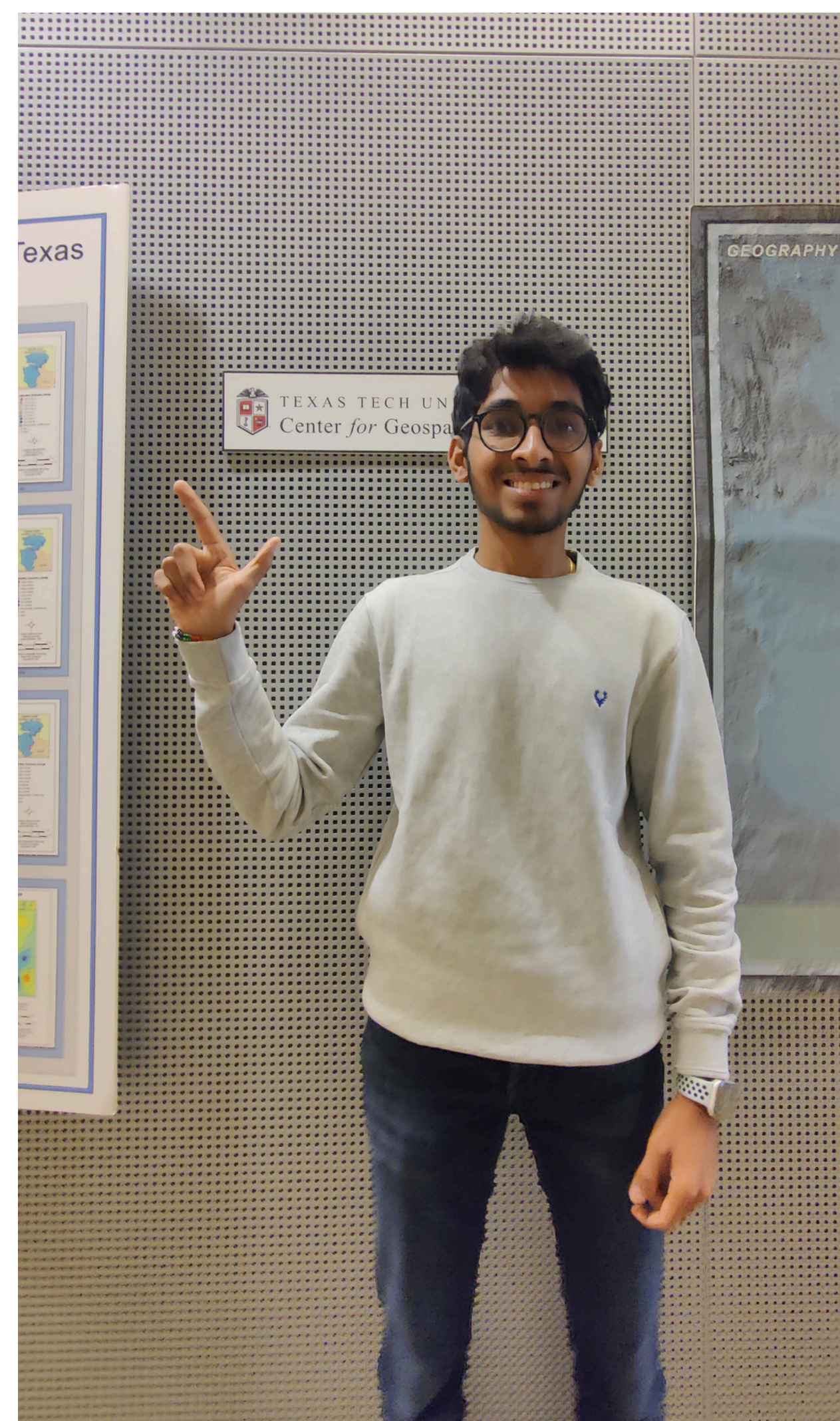
--Faculty. Xuantong Wang



## Goals

**Goal 1:** Aim to clean and organize data obtained from various sources, then analyze and identify relationships within it. We performed preliminary analyses to examine trends and patterns in preparation for advanced modeling.

**Goal 2:** Create a standardized database and provide an overview using both descriptive statistics and geovisualization



## Student Voice

"I prioritized the TTU TrUE Transformers program because its collaborative nature and real-world focus align with my academic and career goals. This opportunity allows me to develop valuable skills while contributing to impactful projects."

-- Jose Vilalobos

## Team

**Faculty:** Xuantong Wang, Dr. Bingxin Qi

**Students:** Aakash Bora, Jose Villalobos

**TrUE**  
**Transformers**

My Top 3  
Transformative Priorities

Support Multiple  
Undergraduates

Intentionally Recruited  
Underrepresented

Leveraged Existing  
Support