UDS Displaced Voices Presentation Script

Slide 1: Title Slide
"Good/afternoon everyone. Today we're presenting Displaced Voices - a data science project focused on using data tools for housing justice in Arizona."

Slide 2: Project Objectives
"Our primary goal is to forecast eviction numbers for 2025 to enable proactive budgeting. We're targeting assistance for the Arizona government to allocate rental assistance funds more efficiently.
We took a three-pronged approach using eviction data from 2022 to 2024, analyzing it through visualization, statistical analysis, and predictive modeling. The impact we hope to achieve is ensuring no household is left behind due to funding shortfalls."

Slide 3: Track Members
"Our team was divided into three specialized tracks. The Visualization Track was led by Nhi Nguyen and Devang Singhal. The Statistical Analysis Track included Sean Skinner and Leticia Favero Lopes. And our Predictive Modeling Track consisted of Sai Roy, Harshini Balamurugan Vadivazhagi, Rati Tabatadze, Poojitha Nuthalapati, and Tylor Vongsenekeo."

Slide 4: How Each Track Helps
"Each track played a crucial role. The Visualization Analysis gave us exploratory data insights through visual patterns. Statistical Analysis helped us identify the key drivers of eviction risk. And Predictive Modeling enabled us to create time series forecasts for 2025."

Slide 5: Visualization Track Intro
Speaker: [Nhi or Devang]
"Now I'll hand it over to the Visualization Track to share what we discovered in the data."

Slide 11: Statistical Analysis Intro
Speaker: [Sean or Leticia]
"Now let's move to the Statistical Analysis track, where we identified the key factors driving eviction risk."

Slide 16: Predictive Modeling Intro
"Now we'll discuss our predictive modeling approach and our forecasts for 2025."

Slide 17: Our Prediction Strategy
"Our method was simple: learn from the past to predict the future. We used three years of Maricopa County eviction records from 2022 to 2024. Our goal was to forecast monthly evictions throughout 2025, so Arizona can plan and budget before families are in crisis."

Slide 18: Time Series Graph
"This time series graph was built using a Random Forest algorithm to create a time series forecast in a monthly sequential manner over the three years. We used the evictions dataset from Maricopa County to produce our results.

The graph shows the historical data from 2022 to 2024 along with our predictions for 2025. You can see clear seasonal patterns, with evictions consistently peaking during the summer months and dipping in the spring."

Slide 19: Dataset Overview
"We used **unsealed records** from 2022 to 2024. In 2022, there were 45,428 total records with an average of 3,785 per month. In 2023, 43,069 records averaging 3,589 per month. And in 2024, we saw a significant increase to 52,900 records, averaging 4,408 per month. Our prediction for 2025 is 54,143 total evictions, averaging 4,513 per month."

Sealed data for eviction refers to court records that have been removed from public view to protect a tenant's ability to find future housing. This is done by sealing or expunging the eviction record, which hides it from the public and most landlords, though certain parties like the court or the tenant can still access it. Sealing is typically a response to cases that were dismissed, won by the tenant, or settled.

Slide 20: What the Data Says
"Here are the key takeaways. We saw a 16% increase from 2022 to 2024, and this trend continues into 2025. Summer months, particularly July and August, consistently show the highest risk across all years.
Our 2025 prediction of 54,143 evictions would make it the highest year yet. The monthly average is rising from 3,785 in 2022 to 4,513 in 2025.
Importantly, we identified an intervention window - spring months show early warning signs before the summer peaks."

Slide 21: Comparison with Actual 2025 Data
"When we compare our predictions with the actual 2025 data through September, we can see that the actual numbers are significantly higher than our predictions - nearly 60% higher on average.

This difference is primarily because we cleaned our data to only use unsealed records, which meant we lost a substantial amount of records in the process. The reason we focused on unsealed data was to enable geographic mapping - our goal was to produce a map showing different areas in Maricopa County with their predicted eviction rates. Unfortunately, due to time limitations, we weren't able to complete this geographic visualization, but it remains a valuable direction for future work.

Despite the underprediction, our model still captures the important seasonal patterns and trends that can inform policy decisions."

Slide 22: Moving Forward
"We acknowledge some current limitations. Our analysis was limited to unsealed eviction records, so sealed cases weren't captured. Our model focuses on temporal patterns, but additional socioeconomic factors could enhance accuracy. And we conducted county-level analysis, but census tract detail would enable more targeted interventions.
For future enhancements, we plan to incorporate additional datasets like labor statistics and American Community Survey data. We also want to deploy neural networks to discover complex cross-dataset relationships."

Slide 23: Conclusion

While our model forecasts more than 54 thousand evictions for 2025 in Maricopa County, we must remember that these are not just statistics—they represent real families, children who may be forced to change schools, parents facing impossible choices, and elderly individuals at risk of losing their homes. Each eviction creates a ripple effect that extends far beyond housing instability, impacting health, employment, education, and community well-being for years to come. Our predictive model provides Arizona policymakers with a critical tool: the ability to see the crisis before it fully unfolds and allocate the estimated resources needed to prevent these evictions rather than merely respond to them. By acting on these data-driven insights today, we have the opportunity to transform communities and potential stories of displacement into stories of stability, dignity, and hope—because behind every number in our forecast is a life worth fighting for, and prevention is not just more cost-effective than reaction, it's the humane choice that preserves families and strengthens communities.

Thank you for your attention. We're happy to take questions.