This research project delves into analyzing educational access and citizenship in Brazil. Using Python Pandas for data analysis, we looked at various socio-demographic variables, including race, gender, sex, and special needs (PCD) in order to discern patterns and trends in educational attainment among different communities.

The focal point of our research revolves around NTEP Certifications (National Technological Education Program) and their significance in the Brazilian educational scenario. Our analysis includes a comprehensive examination of regional differences and their relation to local politics, with a particular focus on the "quota laws" in Brazil.

Objective/Research Questions

1. Explore the policy implications of Brazil's education system expansion
2. Analyze the relationship between university expansion and school completion rates
3. Examine educational attainment by race

Methods

Python libraries allowed us to manipulate and extract valuable insights from our large dataset with over nine years of data. More specifically, we utilized libraries such as Pandas, Matplotlib, and Geopandas to analyze our data and create visualizations. Leveraging these libraries was essential to streamlining our analysis process to uncover meaningful patterns and trends. Additionally, we utilized applications such as AWS and Kaggle to host our data and Adobe Suite to animate graphs.

Results

Percent Non-White Students Enrolled

2008

2017

Fig 1. Percent Non-White students enrolled in educational institutions increased over the years.

Fig 2. Over the years, the region of Southeast Brazil was not much influenced by policy changes. Opposite applies to North/Northeast. Most enrolled were female, low SES

Fig 3. Quantity of students that repeated at least one grade-level of education by race over the years.

Fig 4. Percentage of students with NTEP certification for North states in Brazil.

1. Steady rate of enrollment in Southeast Brazil (SP/RJ) regardless of political affinity or implementation of governmental policy,
2. The North/Northeast deeply changed based on whether the policy was applied. This difference is comparable to political trends seen in the region over time.
3. Overall national decrease in 2016 once interim President Temer took office. This resulted in different patterns of population enrollment per region/
4. The law of quotas was successful in having a higher number of non-white students have access to higher education.
5. Limitation: Most Responses were from Middle School (Ensino Fundamental) Students, which may not reflect all of the university-level achievements.

References