

# Medical School Inequity Analysis

Brent Maples, Max Marcum, Randy Lin

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# Purpose

- What racial disparities are present in medical school applicants and how does it affect the admissions process?
- Is there enough data to show the breakdown of each?

# Datasets Used

- Applicants to U.S. Medical Schools by Race/Ethnicity and State of Legal Residence
- Matriculants to U.S. Medical Schools by Race/Ethnicity and State of Legal Residence
- MCAT Scores and GPAs for Applicants and Matriculants to U.S. MD-Granting Medical Schools
- MCAT Scores and GPAs for Applicants and Matriculants to U.S. MD Granting Medical Schools by Race/Ethnicity
- MCAT Scores and GPAs for Applicants to U.S. MD-Granting Medical Schools by State of Legal Residence
- MCAT Scores and GPAs for Matriculants to U.S. MD-Granting Medical Schools by State of Legal Residence

- Combined Applicant and Matriculant Datasets using Python
- Logistic regression models on all dataset types:
  - Applicants vs. Matriculants by state and race.
  - GPA and MCAT metrics for applicants and matriculants by state.
  - GPA and MCAT metrics for applicants and matriculants by race.
- Visualized results with JavaScript charts

## MCAT and GPA Race Findings

Feature	Coefficient
American Indian or Alaska Native	0.9172
Asian	-0.0974
Black or African American	0.7214
Hispanic, Latino, or of Spanish Origin	-0.2087
Native Hawaiian or Other Pacific Islander	-0.3516
White	-0.0038
Other	-0.0424
Multiple Race/Ethnicity	-0.3780
Unknown Race/Ethnicity	0.0560
Non-U.S. Citizen and Non-Permanent Resident	-0.5193
Total	-0.0789

# Key Findings

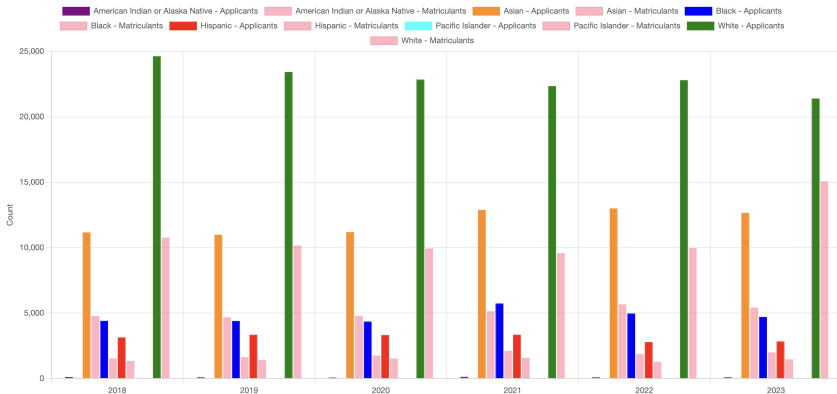
- Logistic Regression on **GPA and MCAT** scores yields **high accuracy** (93%).
- Logistic Regression on **State and Race** data shows **moderate accuracy** (75%).
- Including **Race** with **MCAT and GPA** data results in **lower accuracy** (66.67%).

# Trends by Year and Race

## Applicants vs. Matriculants by Race

Year:  Race:  Type:

All Races - Comparison for All Years



# Conclusion

- **MCAT scores and GPA** are strong predictors of medical school matriculation.
- Racial representation was low for Non-White and Asian groups.
- **State** has a moderate impact on admissions.
- Including **race** with academic metrics decreased model accuracy.
- **Further research** is needed to understand and address inequities in the medical school admissions process.