MBA Admittance Analysis

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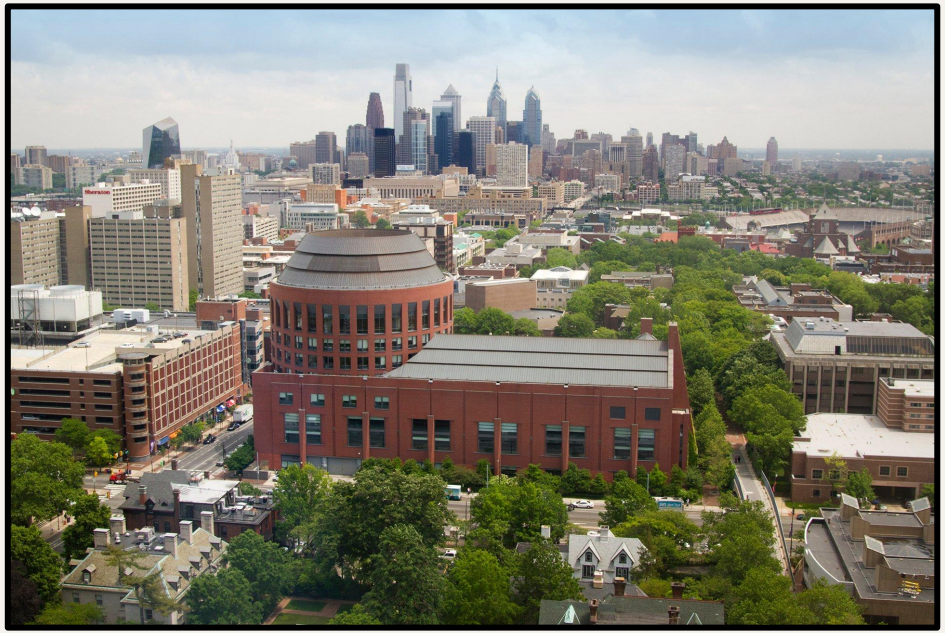
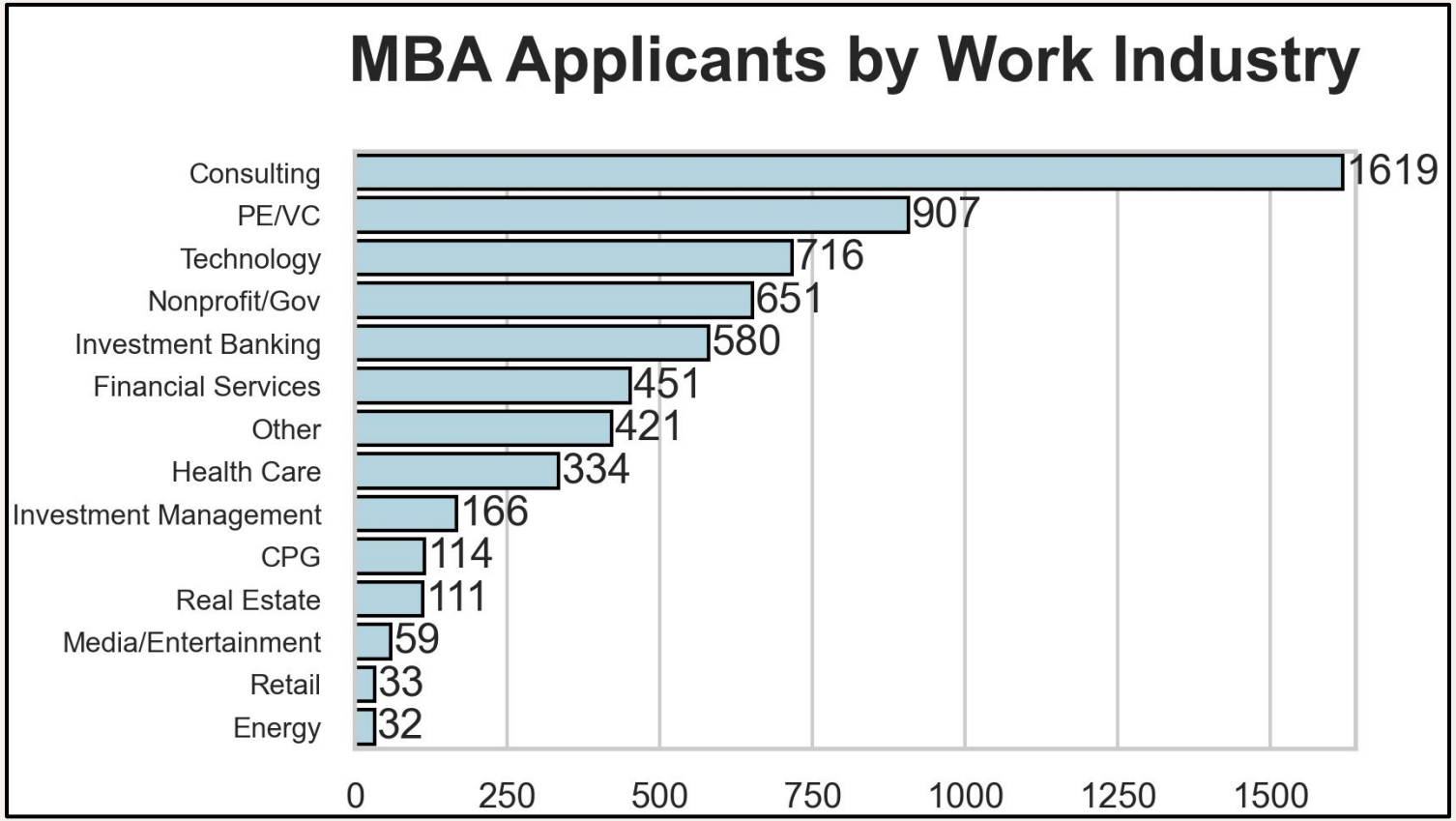
Motivation

- Increased demand of postgraduate degrees
- Degrees offer higher salary and more job opportunities
- Neither an easy choice nor easy path
- Provide insight on current standing and potential future planning

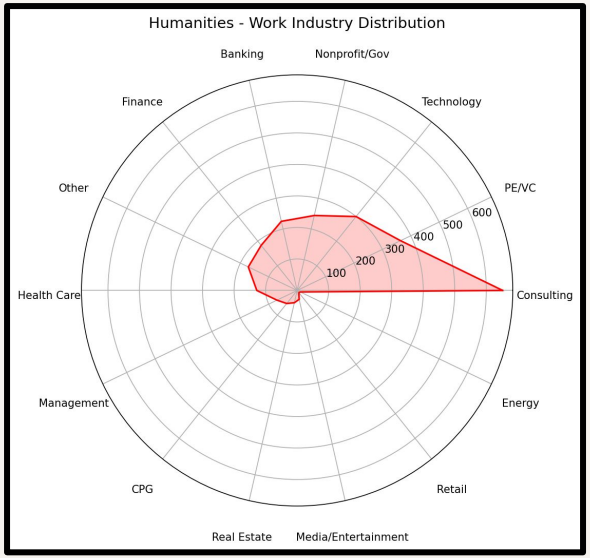
Dataset

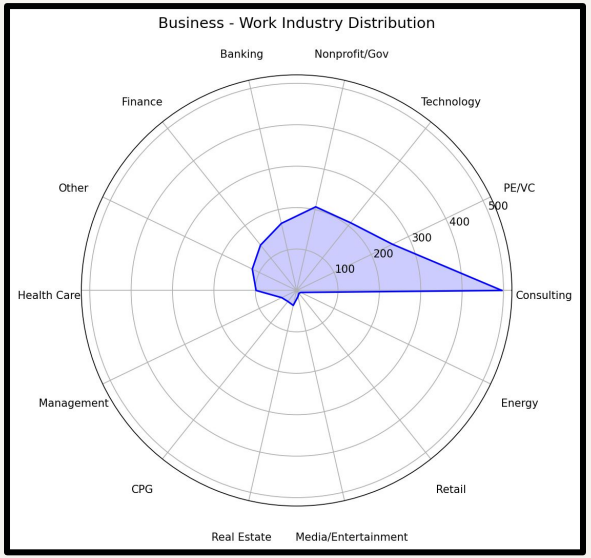
- Kaggle: MBA Admission dataset, Class 2025
- University of Pennsylvania, Wharton Class of 2025
- 6194 applicants
- GPA, GMAT score, major, work industry, admission status, etc

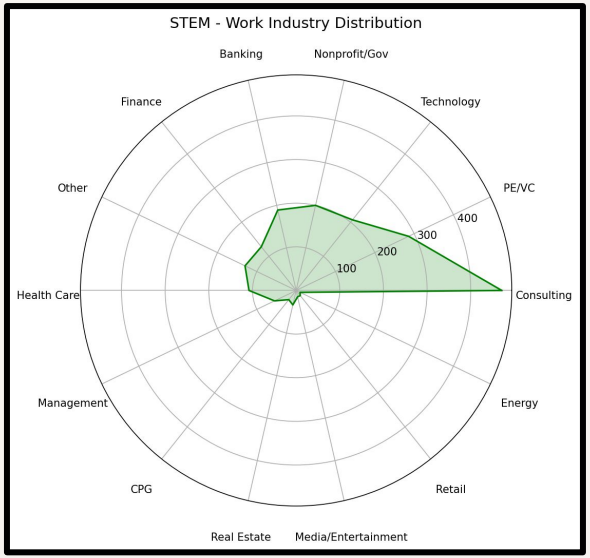



MBA Applicants by Work Industry
Consulting
PE/VC
Technology
Nonprofit/Gov
Investment Banking
Financial Services
Other
Health Care
Investment Management
CPG
Real Estate
Media/Entertainment
Retail
Energy
1619
907
716
651
580
451
421
334
166
114
111
59
33
32
0
250
500
750
1000
1250
1500

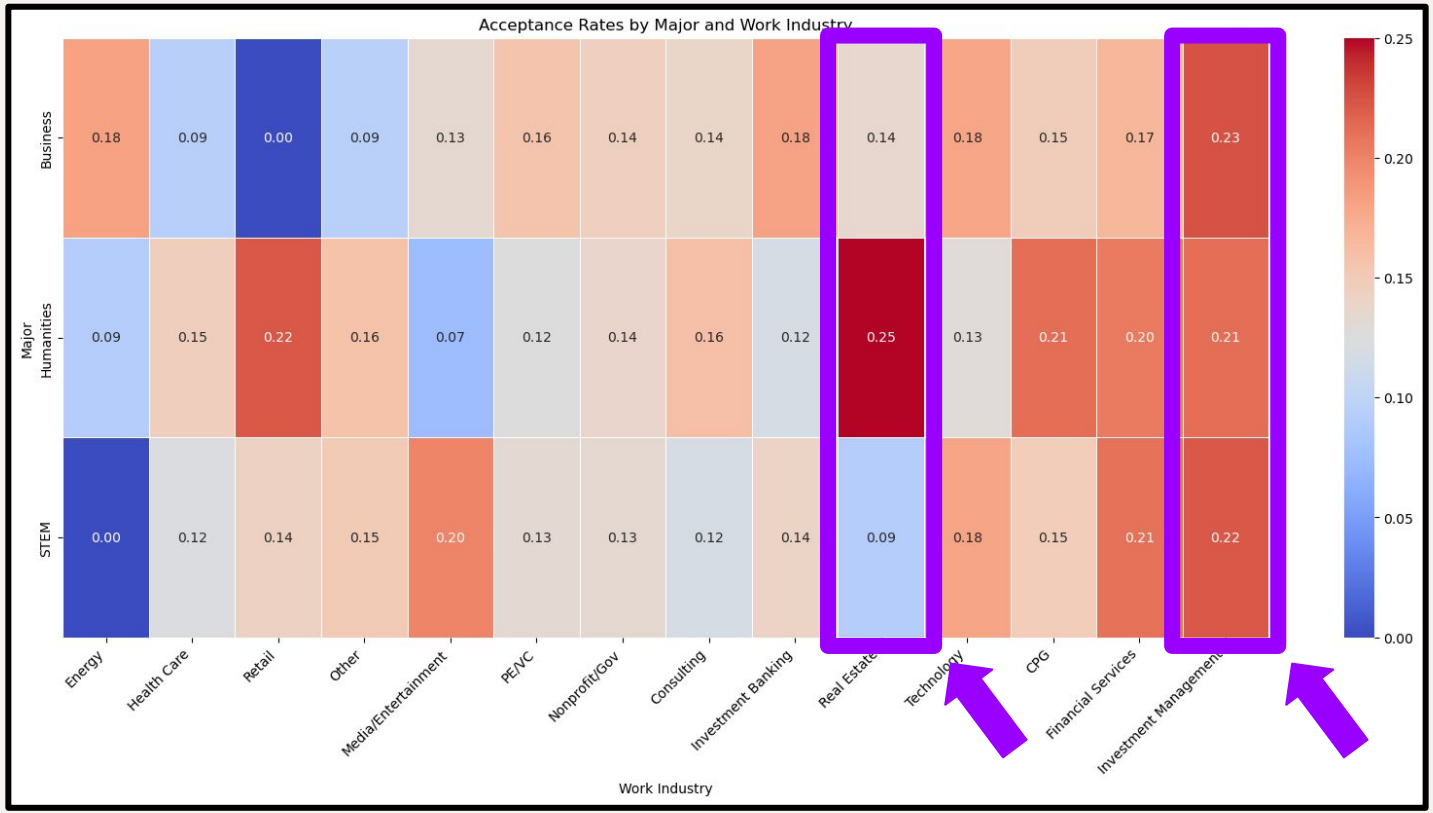
Major and Work Industry



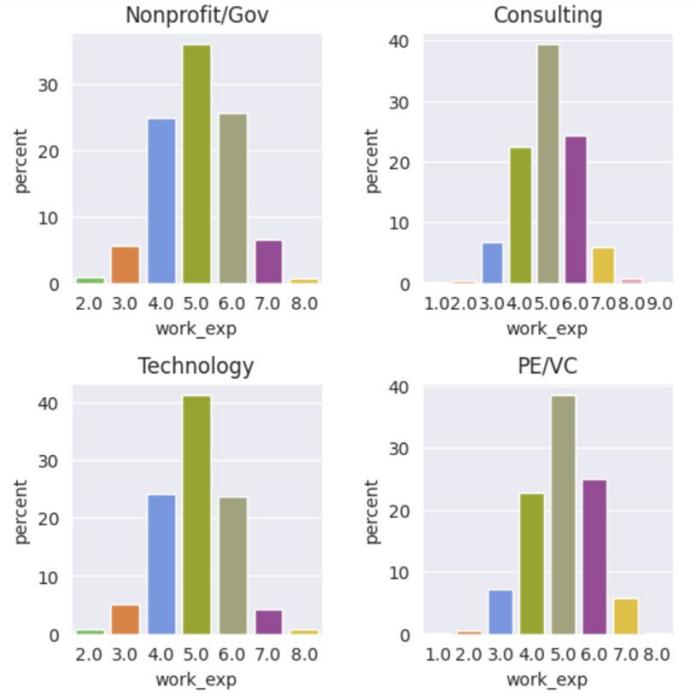




Major and Work Industry



Working experience distribution for the top 4 working industries



We can observe that there are no significant differences among different industries.

In these industries, most people start to think about pursuing an MBA at around the same time: 4-6 years after graduation.

Roughly the same promotion rate.

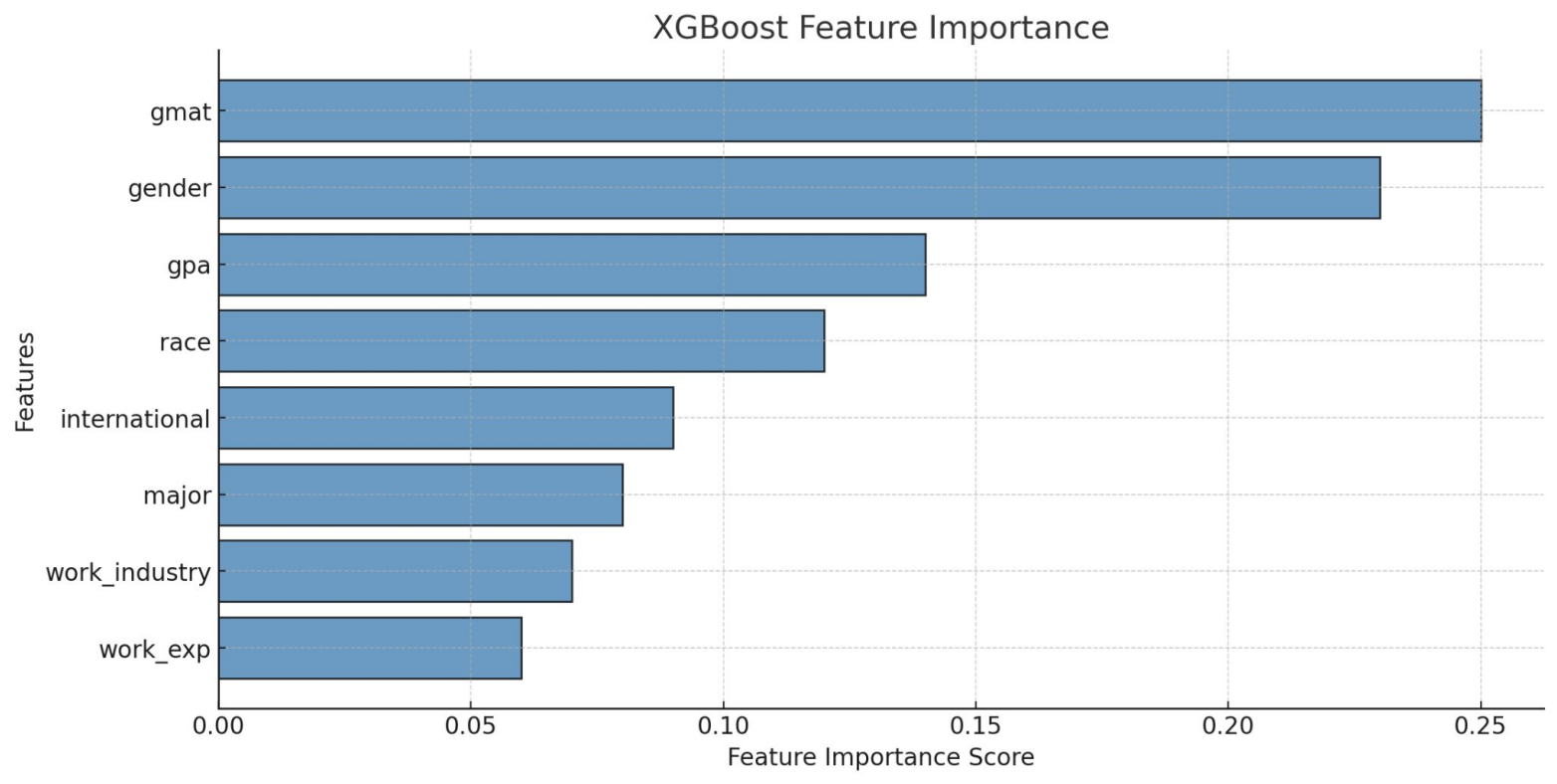
Does working experience affect admission rate?

Applicants with 3 to 7 years of experience have similar admission rate.

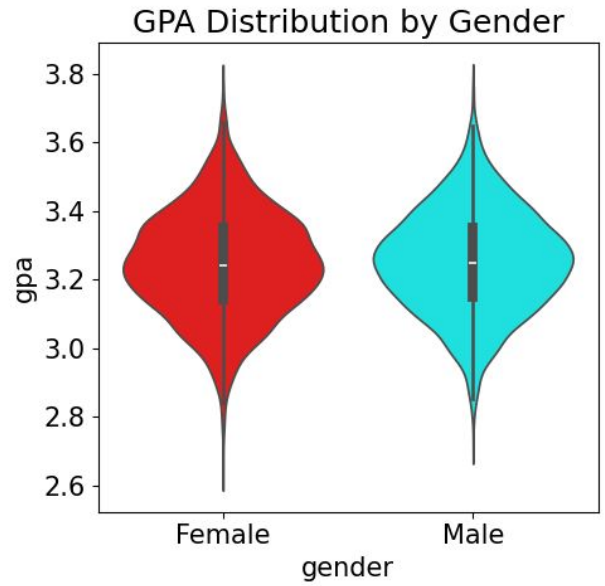
Beyond/below that, the admission rate drops a lot.

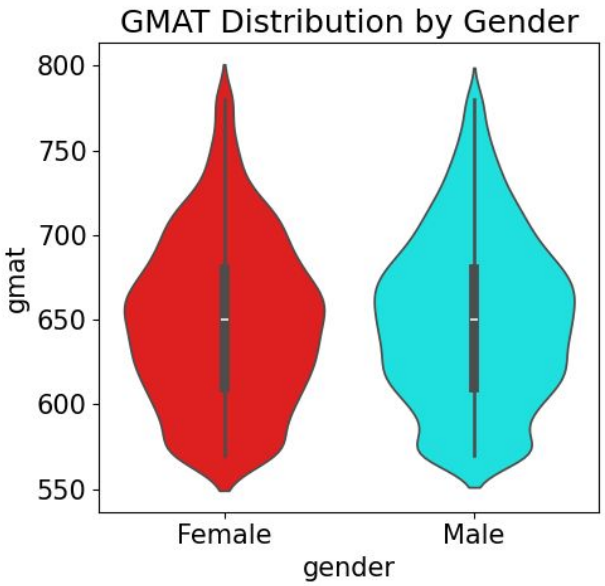
Possible reason: young applicants are lack of experience, while old applicants are somehow ‘overqualified’ for MBA.

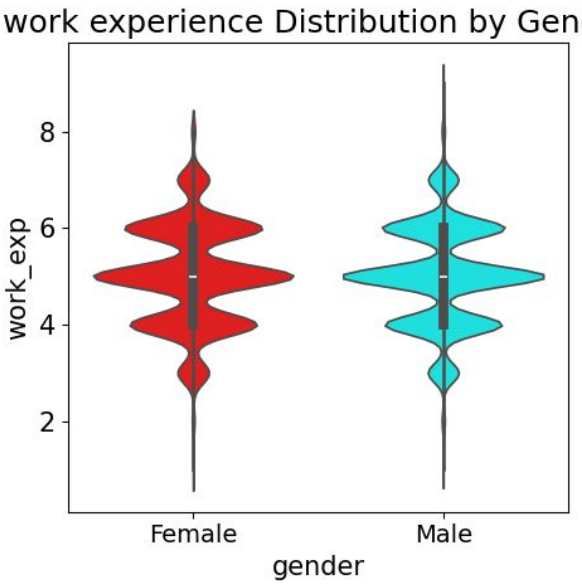
What matters for admission?



How does gender affect admission?





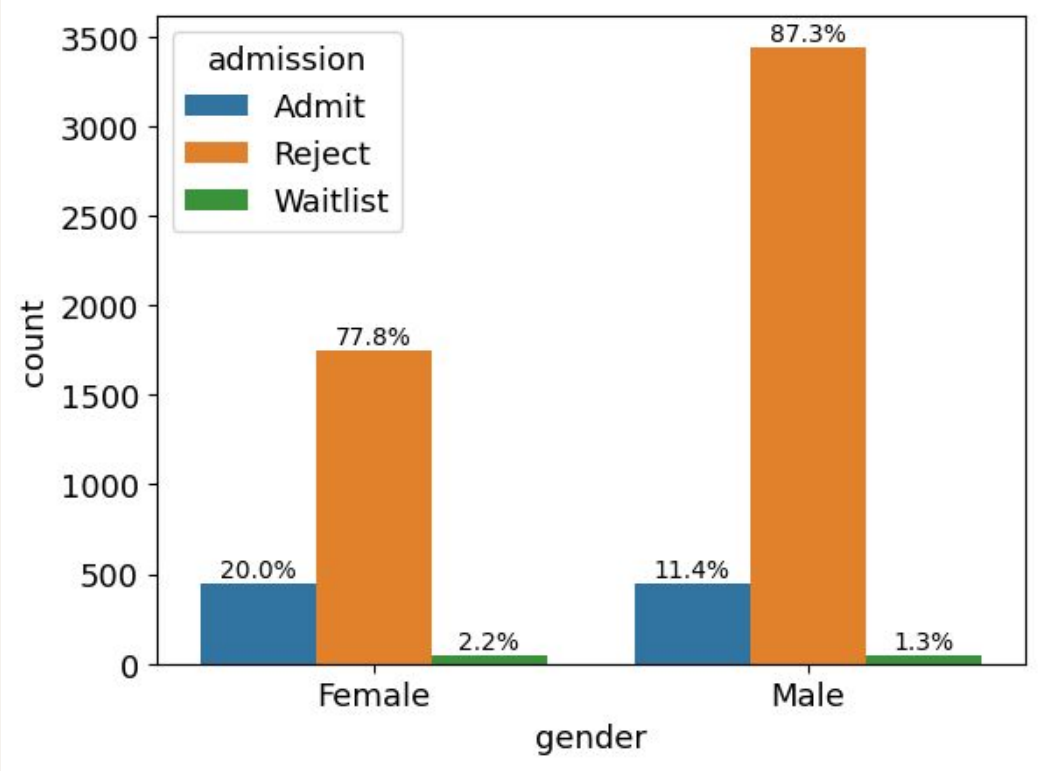


With similar distributions in
GPA, GMAT, and work experience of the 2 genders...

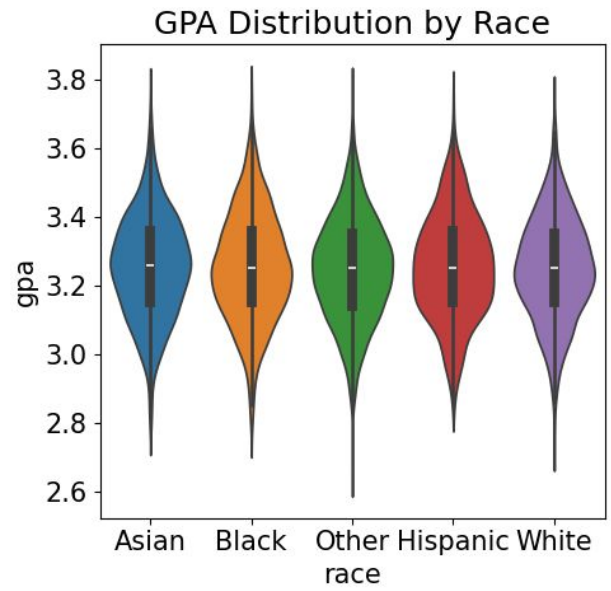
How does gender affect admission?

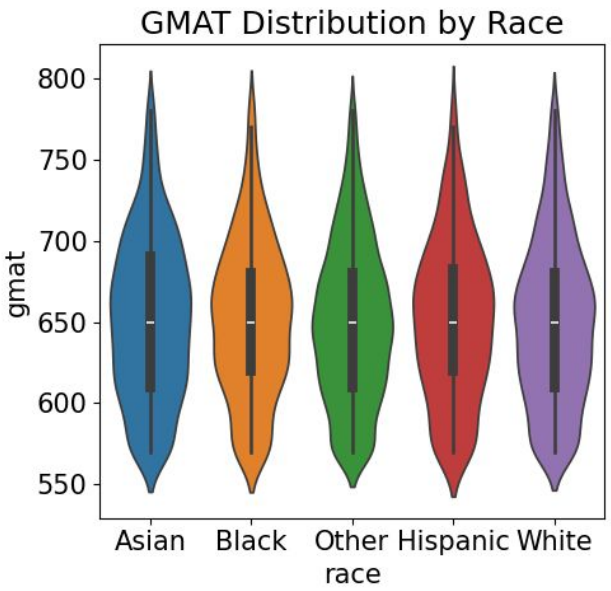
...female is about twice as likely as male to be admitted.

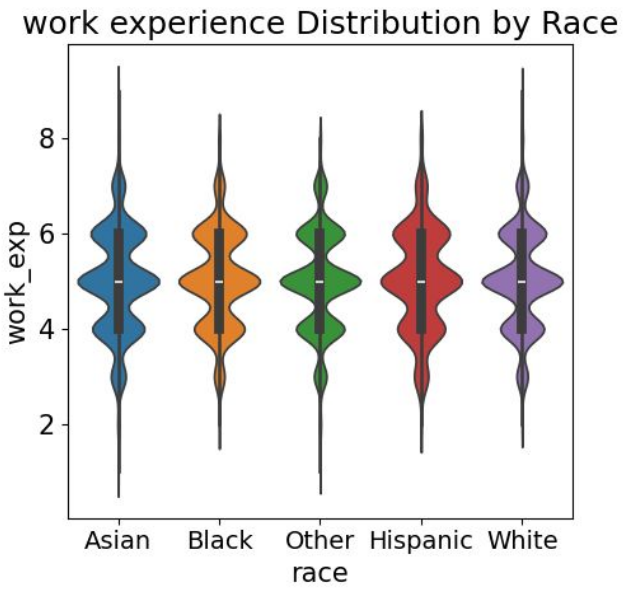
The findings presented here are based solely on the analysis of historical data. Any patterns observed do not necessarily reflect the intentions or policies of the admissions process.



How does race affect admission?







With similar distributions in
GPA, GMAT, and work experience of different races...

How does race affect admission?

...the Black and Hispanic applicants seem to have significantly less chance to be admitted.

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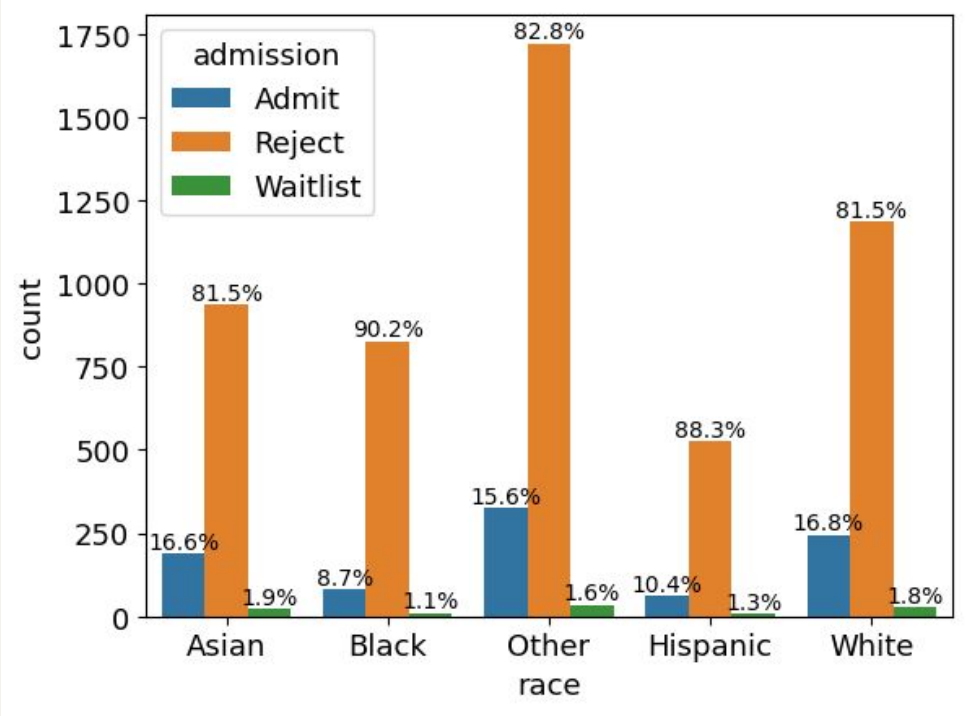
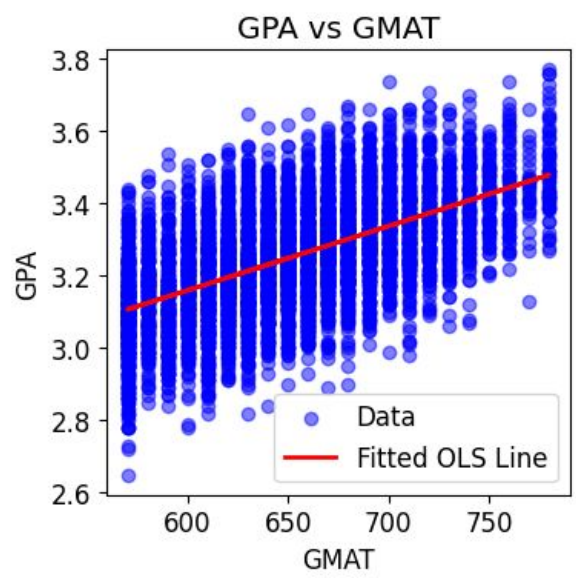
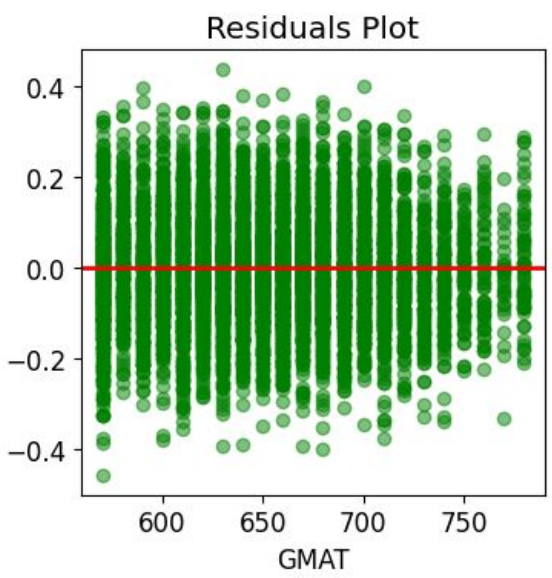
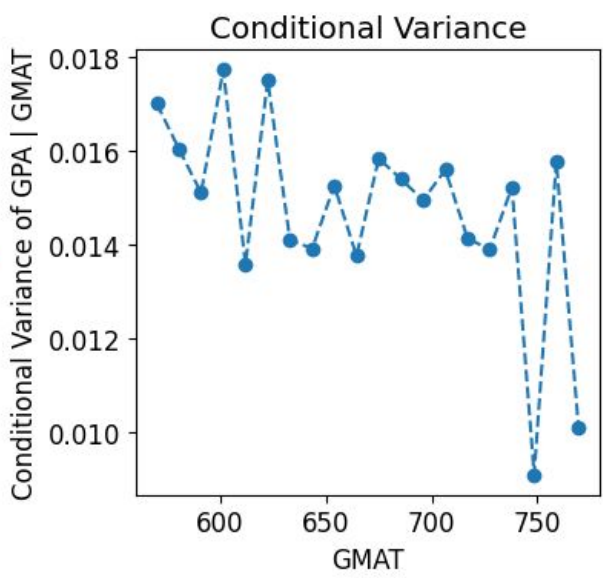


How are GPA and GMAT correlated?







$$\text{GPA} = 2.095 + 0.002 \times \text{GMAT} + \mathcal{N}(0, 0.014)$$

Is a good model!

How well can we predict admission results?

Model	Accuracy	Precision	Recall	F1-Score
Linear Regression	**0.845**	0.830	0.845	0.780
KNN	0.837	0.805	0.838	0.813
Random Forest	0.819	0.785	0.819	0.797
XGB	0.830	0.799	0.830	0.809
SVM	0.841	0.708	**0.842**	0.769

Linear Regression has **high Accuracy (0.845) and Recall (0.845) but a lower F1-Score (0.780)**.

SVM has **the second highest Recall (0.842) but the lowest Precision (0.709).**

Boosting methods generalize better than Bagging methods on this dataset.

Thank you!