**Slide 1:**

Whether gender disparity exists in patents, articles, and conference proceedings for faculty members in MIT and how the disparity has changed over time

**Slide 2:**

The API that the website uses does not have any documentation. So lots of testing.

Only returns 100 entries per query, which limits the size of our dataset. Employ techniques to get around limitations and maximize our dataset

**Slide 3:**

To show if there is a Statistically significant disparity by gender in patents, articles, and conference proceedings

Percentage of publications for each gender

Percentage of faculty members for each gender

Disparity Index close to one means the genders are equally represented

We used disparity index to investigate how gender disparity has changed over time

Applied linear regressions to quantify trends in gender disparity

Newer faculty members are experiencing similar gender gaps to older faculty members

**Slide 4:**

Histograms shows the total number of publications for each of the gender

Clearly see a large gender disparity across the board

After running t-tests using an alpha 0.05,

We found statistically significant gender disparity in average article count (point)

For other types of publications, not enough evidence to reject null, likely due to high variance

**Slide 5:**

Moving on, we want to examine if the gender disparity exists for all of the departments

Here we only present patents for the sake of time

If you take a look at this graph, Plot total number of patents for each of the departments

Similarly, large gender disparity across the board, except (Physics), same faculty members

Running t-tests, we found statistically significant gender gaps in Biology, Material Science

**Slide 6:**

Then we want to answer the question: has the gender disparity changed over time?

Plot disparity index for male and female faculty members

Reminder disparity index close to one means genders are equally represented

Attention on patents and conference proceedings, both gender trending towards one => gender disparity has been improving over time

After applying linear regression, we found statistical significance for trends in patents and conference proceedings

**Slide 7:**

Histograms showing the total number of publications for older and newer faculty members to see if newer faculty members subjected to similar gender gaps as older faculty members

Only found statistical significance for older faculty members in article counts

**Slide 8:**

Sample size too limited for showing statistical significance.

Predicting race based on first names and last names is highly unreliable.

Therefore, eliminated from analysis