This assignment uses county level election data to analyze 'landslide' and 'competitive' counties over the last four presidential elections. Landslide counties are counties in which one candidate won by 20 or more percentage points and competitive counties are counties in which the winning candidate won by 10 or fewer percentage points.

In [2]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [3]:
```
df = pd.read_csv('county_election_data_2000-2020.csv')
```

2008

In [17]:
```
# Calculating number of landslide counties for 2008

land2008 = np.sum(abs(df.gop_minus_dem_prc_2008) >= 20)
print('The % of counties that were landslides in the 2008 Presidential Election was',
      (land2008)/3154 * 100, '%')
```

```
The % of counties that were landslides in the 2008 Presidential Election was 55.26315789473685 %
```

In [26]:
```
# Calculating number of competitive counties for 2008

comp2008 = np.sum(abs(df.gop_minus_dem_prc_2008) <= 10)
print('The % of counties that were competitive in the 2008 Presidential Election was',
      (comp2008)/3154 * 100, '%')
```

```
The % of counties that were competitive in the 2008 Presidential Election was 23.272035510462903 %
```

2012

In [18]:
```
# Calculating number of landslide counties for 2012

land2012 = np.sum(abs(df.gop_minus_dem_prc_2012) >= 20)
print('The % of counties that were landslide in the 2012 Presidential Election was',
      (land2012)/3154 * 100, '%')
```

```
The % of counties that were landslide in the 2012 Presidential Election was 63.79201014584655 %
```

In [23]:
```
# Calculating number of competitive counties for 2012

comp2012 = np.sum(abs(df.gop_minus_dem_prc_2012) <= 10)
print('The % of counties that were competitive in the 2012 Presidential Election was',
      (comp2012)/3154 * 100, '%')
```

```
The % of counties that were competitive in the 2012 Presidential Election was 17.913760304375394 %
```

2016

In [19]:
```
# Calculating number of landslide counties for 2016

land2016 = np.sum(abs(df.gop_minus_dem_prc_2016) >= 20)
print('The % of counties that were landslide in the 2016 Presidential Election was',
      (land2016)/3154 * 100, '%')
```

```
The % of counties that were landslide in the 2016 Presidential Election was 77.48890298034242 %
```

In [24]:
```
# Calculating number of competitive counties for 2016

comp2016 = np.sum(abs(df.gop_minus_dem_prc_2016) <= 10)
print('The % of counties that were competitive in the 2016 Presidential Election was',
      (comp2016)/3154 * 100, '%')
```

```
The % of counties that were competitive in the 2016 Presidential Election was 10.906785034876346 %
```

2020

In [20]:
```
# Calculating number of landslide counties for 2020

land2020 = np.sum(abs(df.gop_minus_dem_prc_2020) >= 20)
print('The % of counties that were landslide in the 2020 Presidential Election was',
      (land2020)/3153 * 100, '%')
```

```
The % of counties that were landslide in the 2020 Presidential Election was 76.68886774500476 %
```

In [25]:
```
# Calculating number of competitve counties for 2020

comp2020 = np.sum(abs(df.gop_minus_dem_prc_2020) <= 10)
print('The % of counties that were competitive in the 2020 Presidential Election was',
      (comp2020)/3153 * 100, '%')
```

```
The % of counties that were competitive in the 2020 Presidential Election was 10.719949254678085 %
```

Graph

In [27]:
```
year = [2008, 2012, 2016, 2020]
landslide_counties = [(land2008)/3154, (land2012)/3154, (land2016)/3154, (land2020)/3153]
competitive_counties = [(comp2008)/3154, (comp2012)/3154, (comp2016)/3154, (comp2020)/3153]

plt.plot(year, landslide_counties, marker='o', label='Landslide Counties')
plt.plot(year, competitive_counties, marker='o', color='red', label='Competitive Counties')
plt.xlabel('Election Year')
plt.ylabel('% of Counties')
plt.title('County Victory Margins by Election Year')
plt.legend()
plt.grid(True)

plt.savefig('County_Victory_Margins', dpi=300)
```