'Game of Thrones' Story Through the Data Science Narrative

Summer Semester 2019

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Battles Dataset

A peek at the battles data:

	name	year	battle_number	attacker_king	defender_king	attacker_1	attacker_2	attacker_3	attacker_4	defender_1	...	major_death	major_capture
0	Battle of the Golden Tooth	298	1	Joffrey/Tommen Baratheon	Robb Stark	Lannister	NaN	NaN	NaN	Tully	...	1.0	0.0
1	Battle at the Mummer's Ford	298	2	Joffrey/Tommen Baratheon	Robb Stark	Lannister	NaN	NaN	NaN	Baratheon	...	1.0	0.0
2	Battle of Riverrun	298	3	Joffrey/Tommen Baratheon	Robb Stark	Lannister	NaN	NaN	NaN	Tully	...	0.0	1.0
3	Battle of the Green Fork	298	4	Robb Stark	Joffrey/Tommen Baratheon	Stark	NaN	NaN	NaN	Lannister	...	1.0	1.0
4	Battle of the Whispering Wood	298	5	Robb Stark	Joffrey/Tommen Baratheon	Stark	Tully	NaN	NaN	Lannister	...	1.0	1.0

38 rows × 25 columns

Battles Dataset

A review of the plots we used:

```python
sns.scatterplot(data=battles_pre, x='defender_size', y='attacker_size', hue='attacker_king',
                s=20*battles_pre['attacker_outcome'], ax=axes[0,0],
                palette = ('#00AFBB', '#E7B800', '#FC4E07'))
```

```python
sns.catplot(x='attacker_king', y='attacks', hue='attacker_outcome', ax=axes[0,1],
            kind='bar', data=battles_pre, palette = ('#FC4E07', '#E7B800'), ci=None)
```
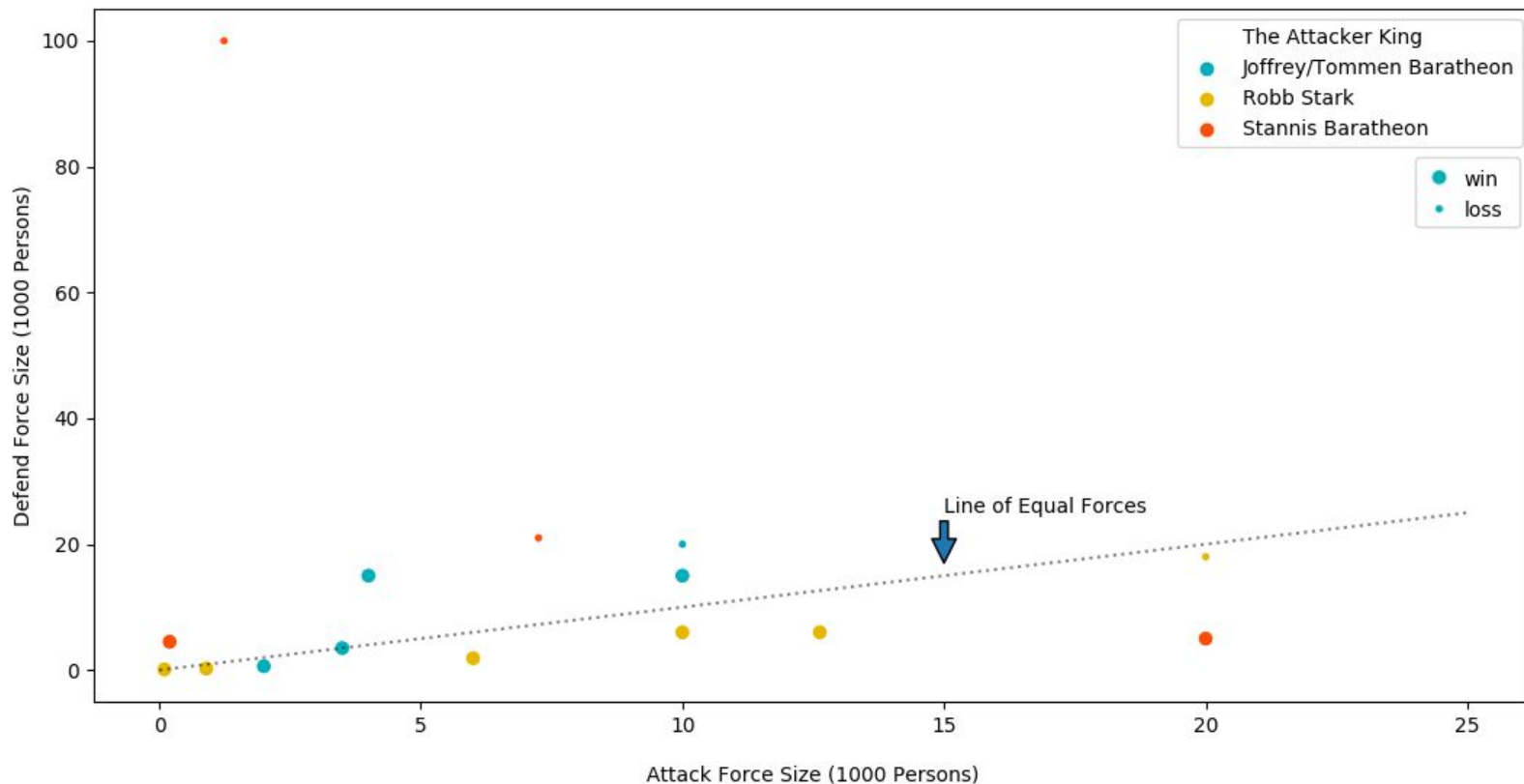
```python
sns.lineplot(x='battle_type', y='major_death', ax=axes[1,0], markers=True,
             dashes=False, data=battles_pre)
```

```python
sns.heatmap(battles_pre, ax=axes[2,1], cmap='YlGnBu')
```

```python
no_of_attacks.plot.bar(title='Attacks per House')
```
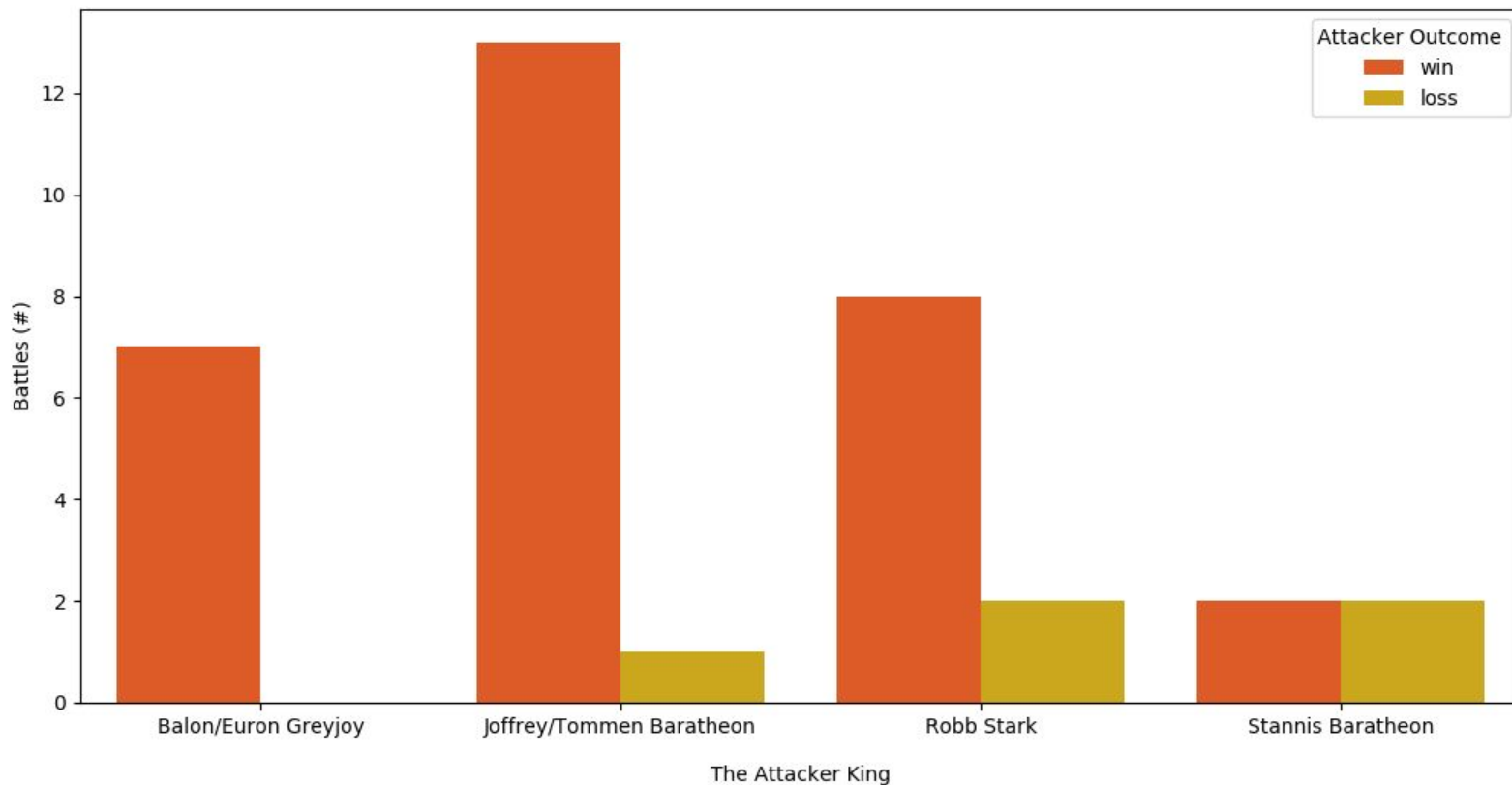
Battles Dataset

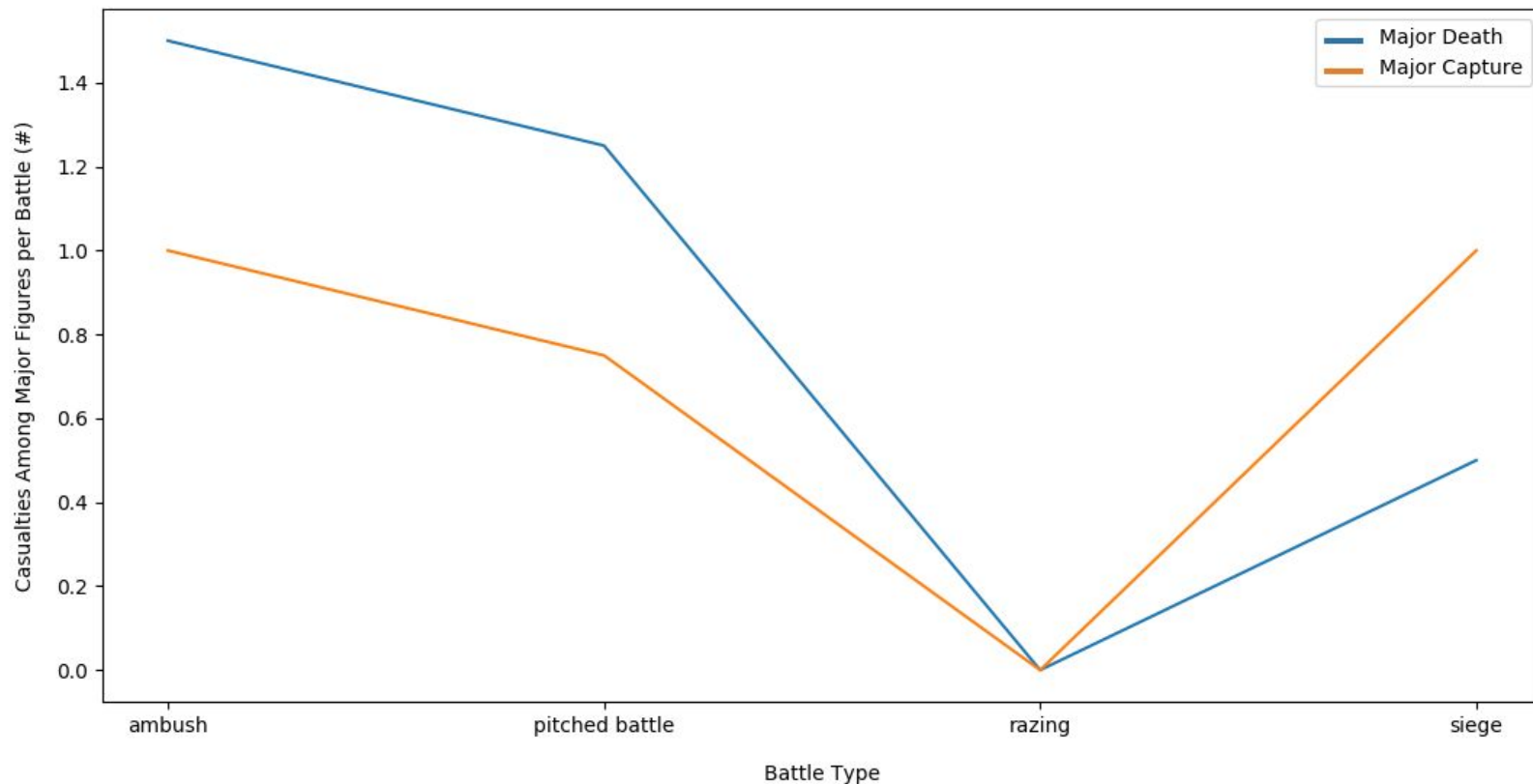Compare the Attacker to the Defender Army Size

Battles Dataset

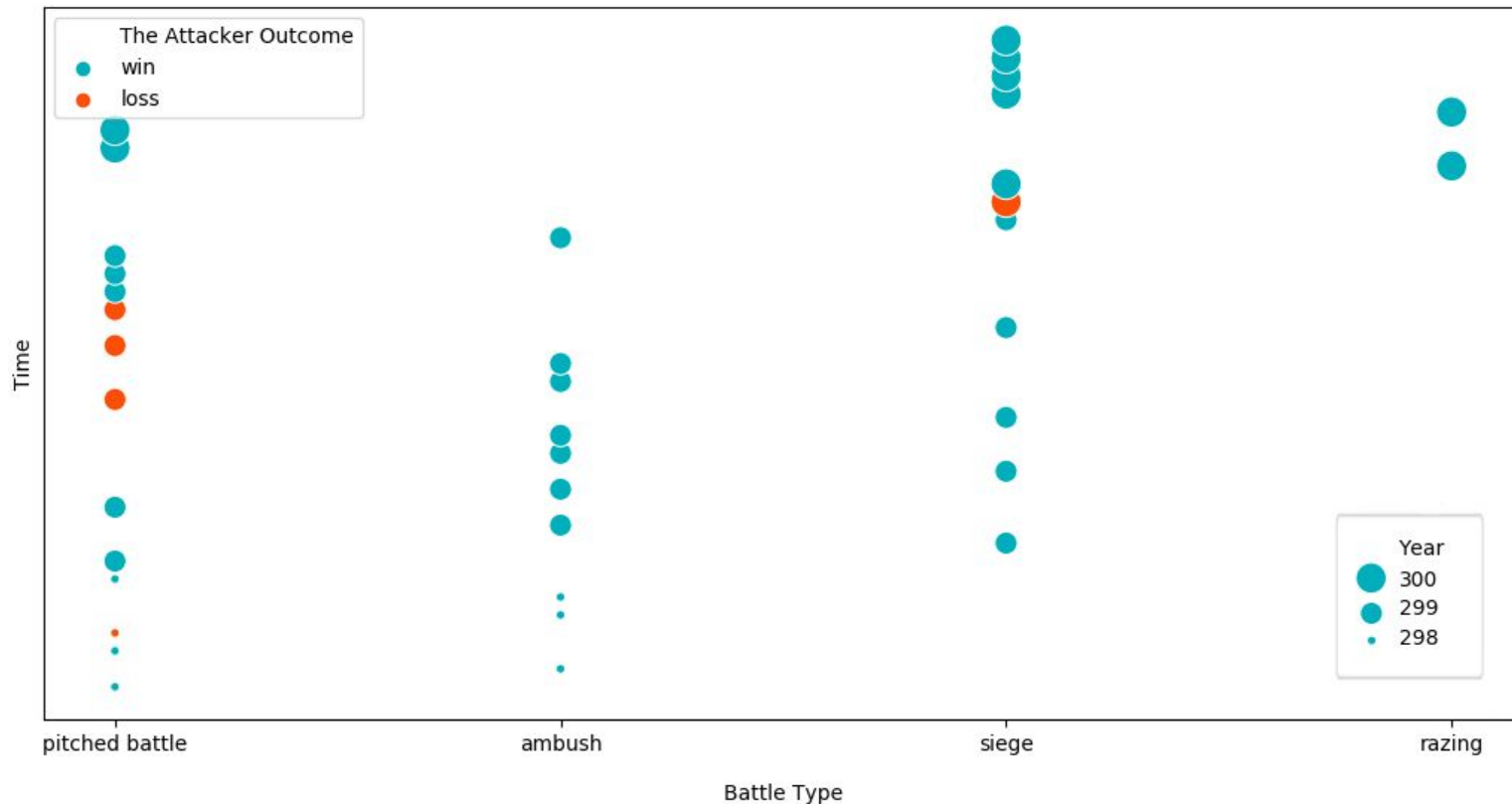Compare the Win/Loss Rates Among the Kings

Battles Dataset

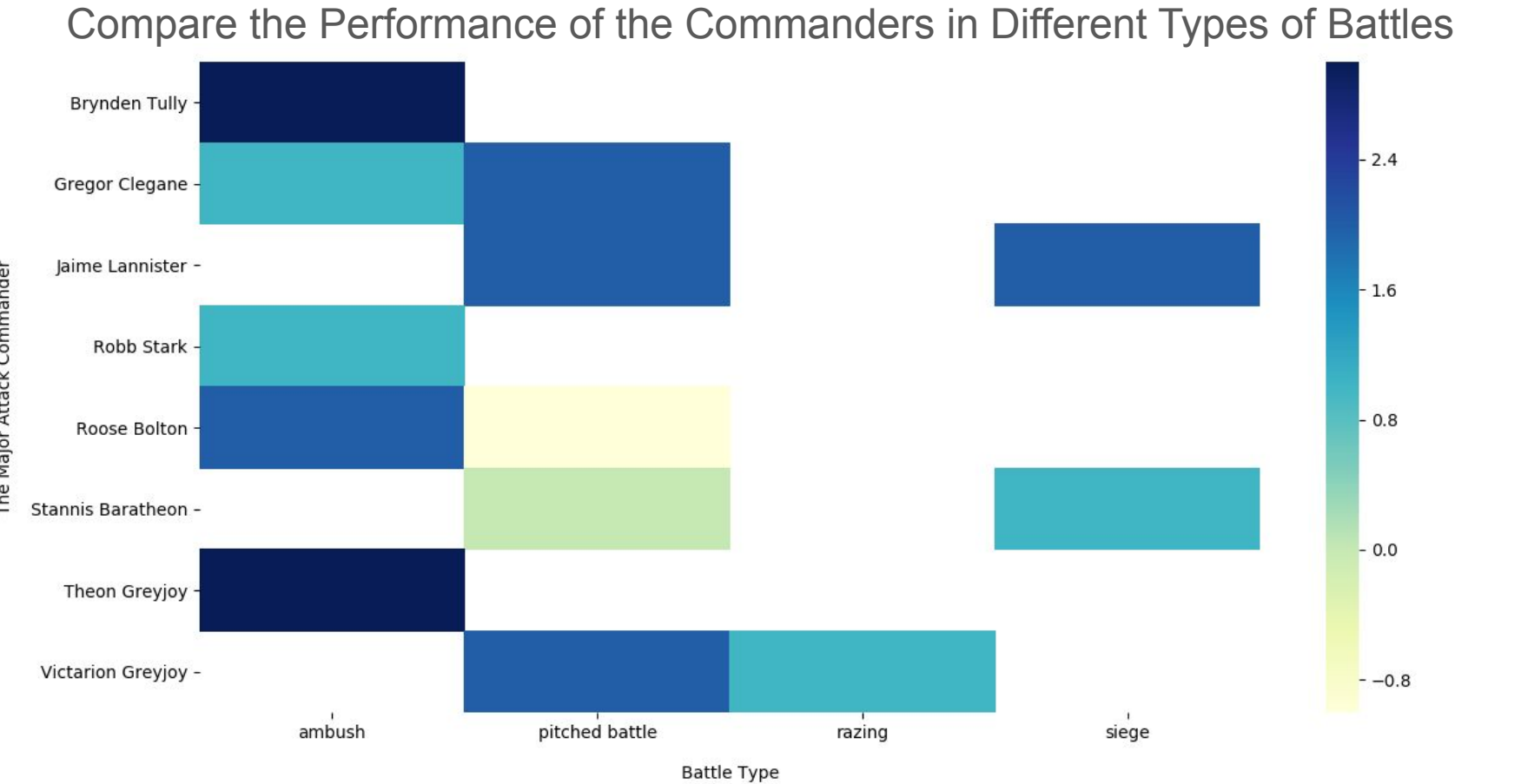Compare the Casualties Rates Among Different Battle Types

Battles Dataset

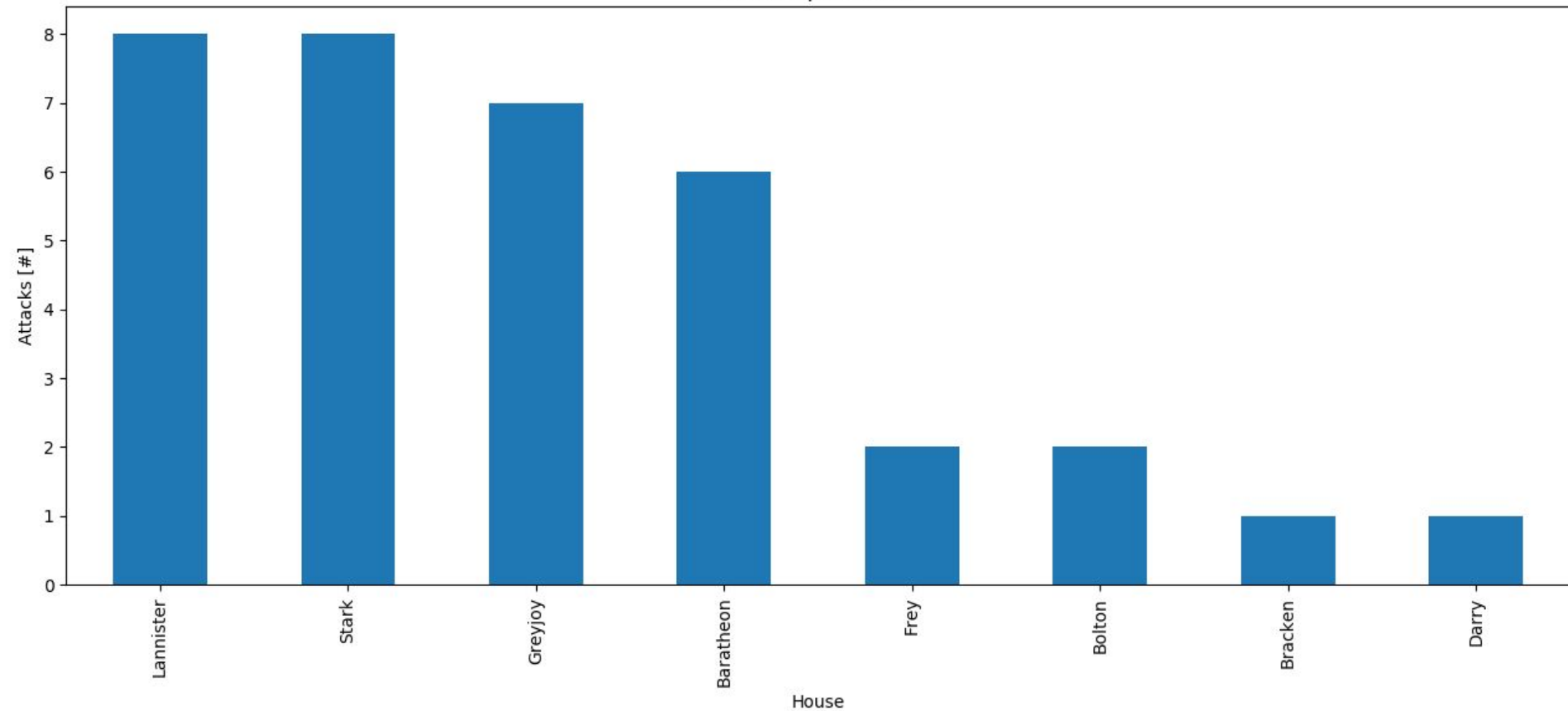Compare the Success Rate Among Different Types of Battles

Battles Dataset

Compare the Performance of the Commanders in Different Types of Battles

Battles Dataset

Attacks per House

Deaths Dataset

A peek at the deaths data:

| Allegiances	Death Year	Book of Death	Death Chapter	Book Intro Chapter	Gender	Nobility	GoT	CoK	SoS	FfC	DwD
Lannister	NaN	NaN	NaN	56.0	1	1	1	1	1	1	0
None	299.0	3.0	51.0	49.0	1	1	0	0	1	0	0
ouse Targaryen	NaN	NaN	NaN	5.0	1	1	0	0	0	0	1
House Greyjoy	300.0	5.0	20.0	20.0	1	1	0	0	0	0	1
Lannister	NaN	NaN	NaN	NaN	1	1	0	0	1	0	0

917 rows × 13 columns

Deaths Dataset

A review of the plots we used:

```python
deaths_gn.plot(kind='bar', ax=ax[0], title='Deaths per Gender and Nobility')
```
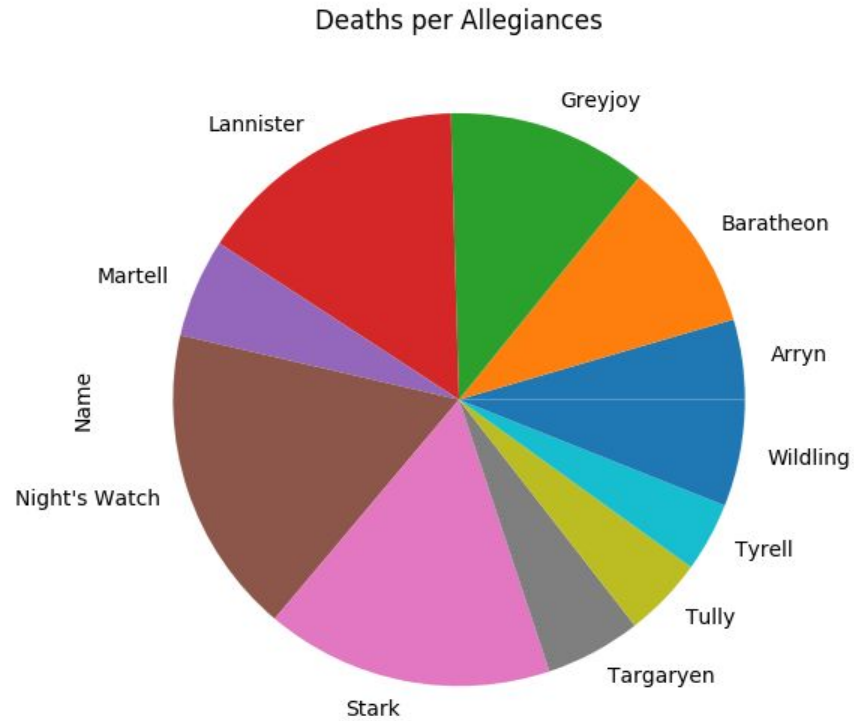
```python
dph.plot(kind='pie', ax=ax[1])
```

Deaths Dataset

Deaths per Gender and Nobility

Deaths Dataset

Deaths per Allegiances
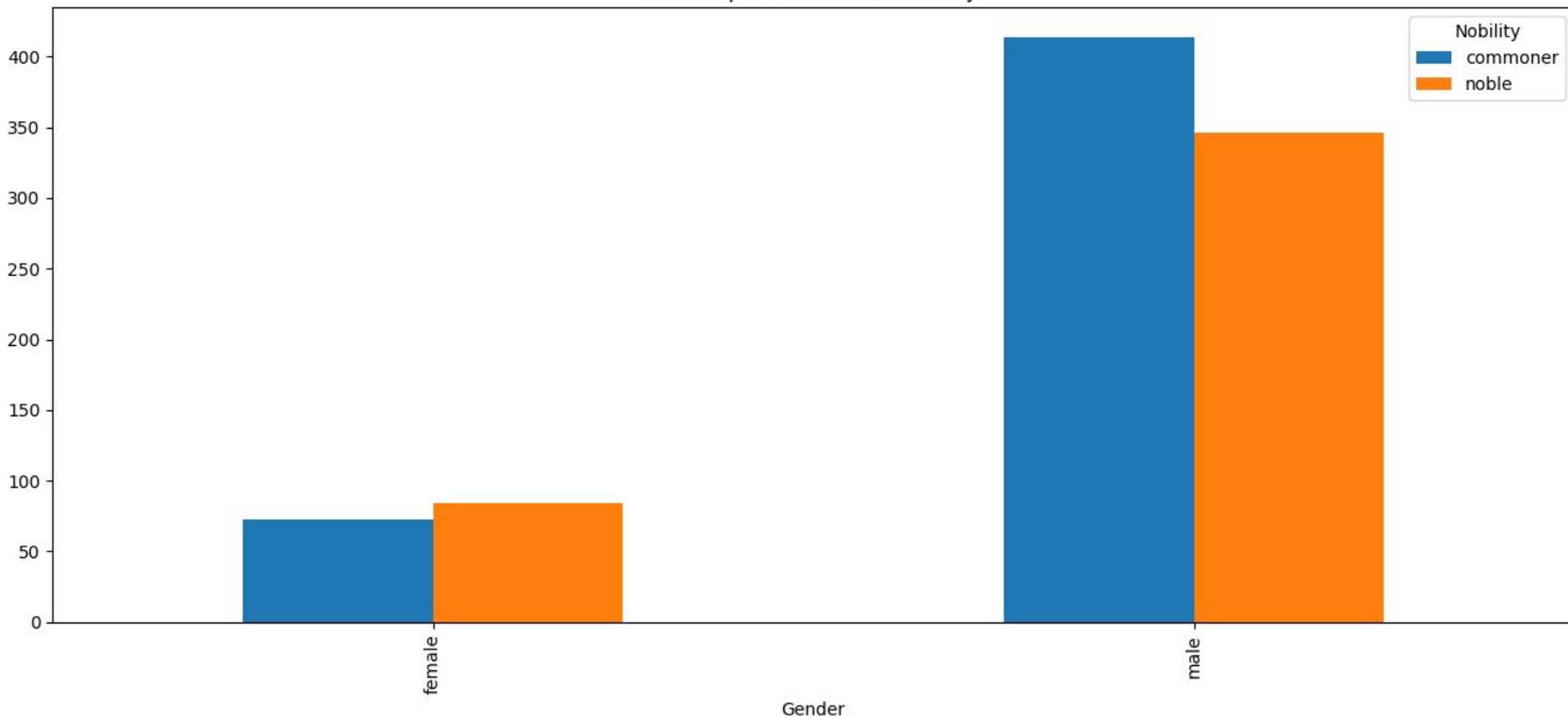
Predictions Dataset

A peek at the predictions data:

	S.No	actual	pred	alive	plod	name	title	male	culture	dateOfBirth	...	isAliveHeir	isAliveSpouse	isMarried	isNoble	age	numDeadRelatio
0	1	0	0	0.054	0.946	Viserys II Targaryen	NaN	1	NaN	NaN	...	0.0	NaN	0	0	NaN	
1	2	1	0	0.387	0.613	Walder Frey	Lord of the Crossing	1	Rivermen	208.0	...	NaN	1.0	1	1	97.0	
2	3	1	0	0.493	0.507	Addison Hill	Ser	1	NaN	NaN	...	NaN	NaN	0	1	NaN	
3	4	0	0	0.076	0.924	Aemma Arryn	Queen	0	NaN	82.0	...	NaN	0.0	1	1	23.0	
4	5	1	1	0.617	0.383	Sylva Santagar	Greenstone	0	Dornish	276.0	...	NaN	1.0	1	1	29.0	

1946 rows × 33 columns

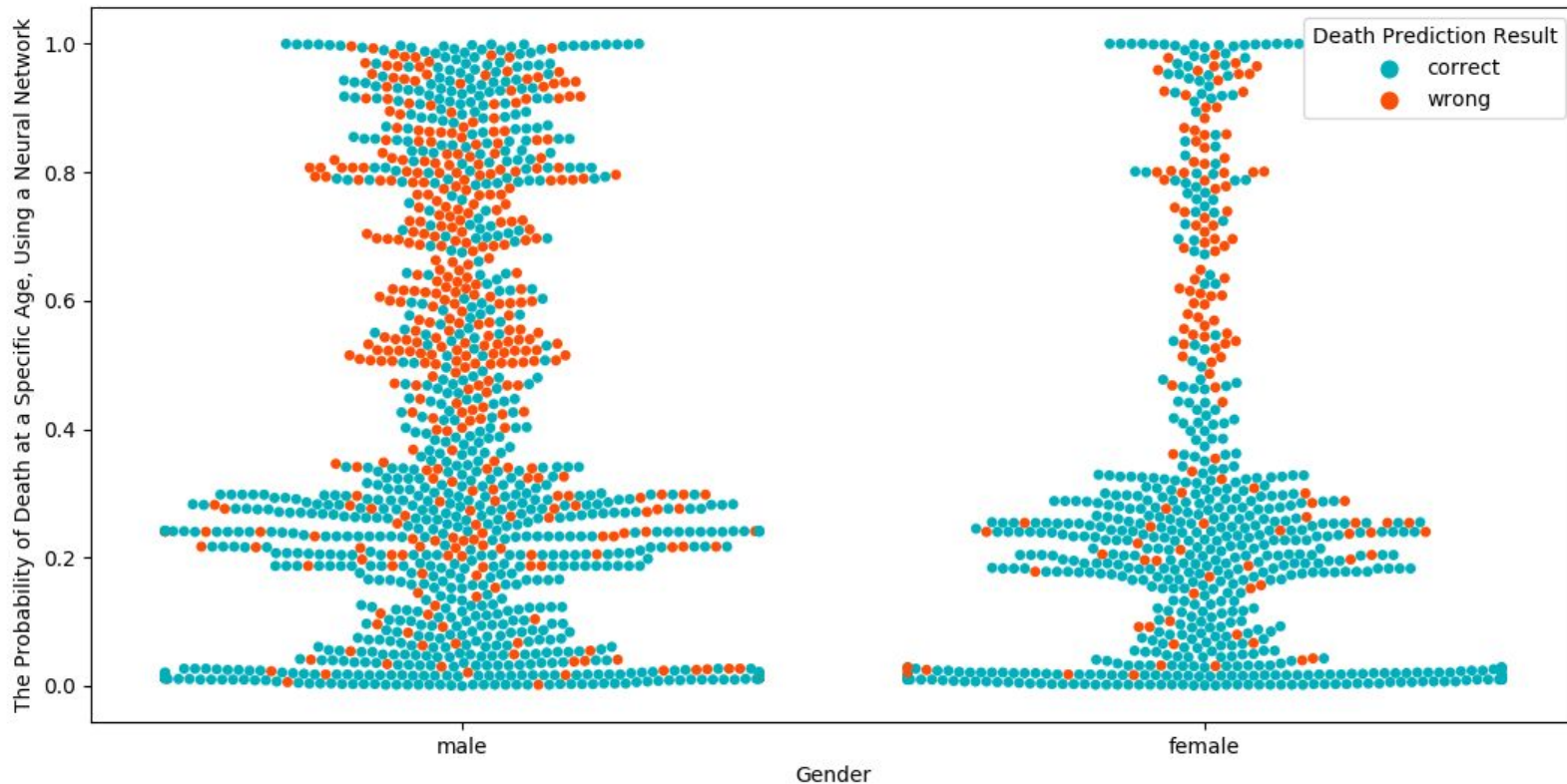# Predictions Dataset

A review of the plots we used:

```
sns.swarmplot(data=predictions_pre, x='male', y='plod', hue='Death Prediction Result',
              palette = ('#00AFBB', '#FC4E07'), ax=ax)
```

```
sns.violinplot(x='male', y='popularity', hue='isAlive',
               data=predictions_pre, split=True, palette = ('#E7B800', '#FC4E07'))
```

Predictions Dataset

Characters' Death Prediction by a Neural Network

Predictions Dataset

Characters' Deaths Between Different Genders and Popularity Rates