

Chess Learning Model

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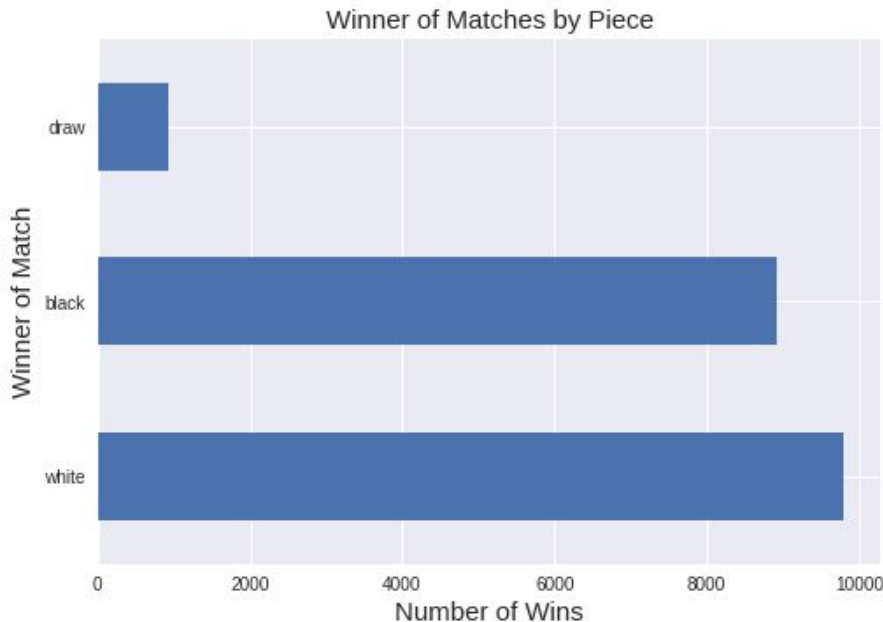
Why a Chess Model?

- I really enjoy playing!
- Combining my passion for chess and data science.
- Opportunity for challenge.
- Goal:
 - Create a model that successfully predicts the outcome of matches.



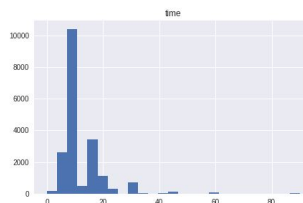
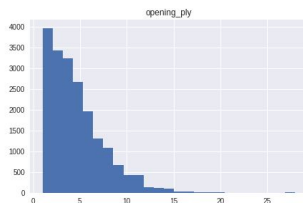
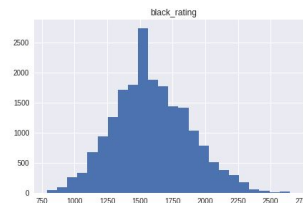
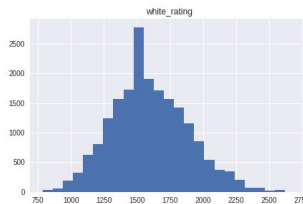
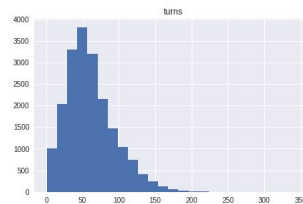
Visualizations and Analysis: Piece Advantage

- White piece advantage
- Impact on playstyles
- Strategy in tournament setting
- Result percentages:
 - White: 49.8%
 - Black: 45.5%
 - Draw: 4.7%



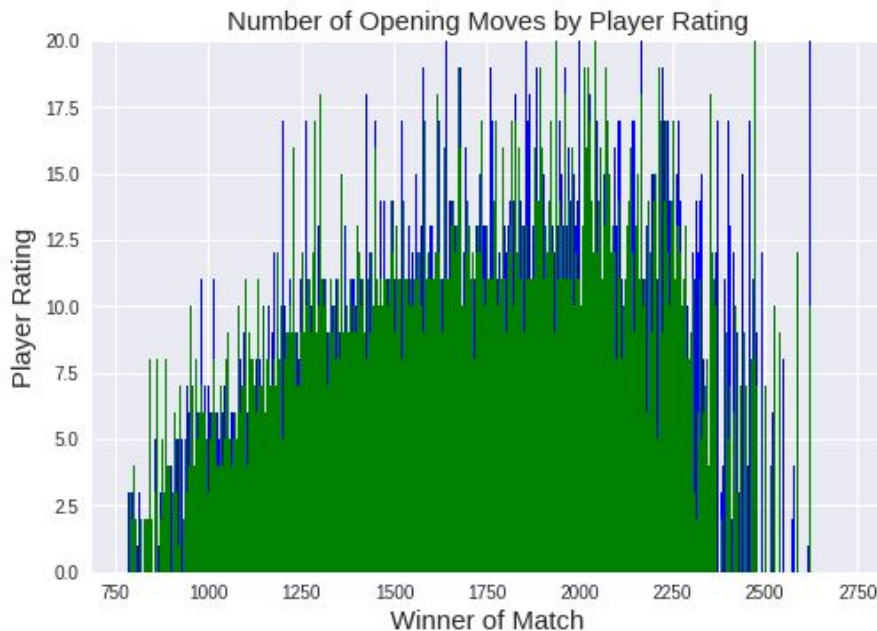
Visualizations and Analysis: Histogram Results

- Distribution of player ratings.
 - Mean rating for White: 1596
 - Mean rating for Black: 1588
- Popularity of time settings
 - Most popular: 10 minute game
- Most common number of turns per match.



Visualizations and Analysis: Opening Phase & Model Performance

- Visualization:
 - Lower rated players spend less moves in the opening phase.
 - Opening theory and move accuracy
- Predictive Model:
 - Successfully produces a predictive model with 84.5% testing accuracy.



Presentation Citations:

Images:

- <https://www.amazon.com.au/Staunton-Tournament-Chess-Pieces-Cotton/dp/B072JY6B75>