**Key**

To Do

**Datasets**

* Regular season games: 2014-2015 to 2017-2018
  + Need to get 2018-2019 and 2019-2020 games and format them for use in our classifier (teams, dates, results)
* Playoff matchups + results: 2015 - 2019

**Results**

* Linear Classifier
  + Playoffs
    - Run 1
      * Parameters
        + Train: Regular season games
        + Test: Playoff matchups (fill out the brackets, etc.)
        + Step size: 1E-3
        + Convergence Criteria: 1E-4
      * Results (Playoff accuracy)

|  |  |
| --- | --- |
| **Year** | **Test Accuracy** |
| 2014-2015 | 53% |
| 2015-2016 | 53% |
| 2016-2017 | 87% |
| 2017-2018 | 67% |

* + - Run 2: Add a validation set, randomly shuffle the games
      * Parameters
        + Train: 80% Regular season games
        + Validation: 20% Regular season games
        + Test: Playoff matchups (not shuffled)
        + Step size: 1E-3
        + Convergence Criteria: 1E-4
      * Results (Dev accuracy, playoff accuracy)

|  |  |  |
| --- | --- | --- |
| **Year** | **Dev Accuracy** | **Test Accuracy** |
| 2014-2015 | 54.3% | 53.3% |
| 2015-2016 | 60% | 80% |
| 2016-2017 | 56.4% | 60% |
| 2017-2018 | 59.2% | 73.3% |

* Parameters
  + Max values of theta:
* General Game Prediction
  + - * + Run 1: Randomly shuffled games across all seasons

Parameters

Train: 80% regular season games

Validation: 10% regular season games

Test: 10% regular season games

Step size: 1E-3

Convergence Criteria: 1E-4

Results

Dev accuracy: 66.8%

Test accuracy: 61.5%

Notes: converged in < 500 iterations

* + - * + Run 2: stricter convergence criteria

Parameters:

Train: 80% regular season games

Validation: 10% regular season games

Test: 10% regular season games

Step size: 1E-3

Convergence Criteria: 1E-5

Results

Dev accuracy: 61.5%

Test accuracy: 64.4%

* + - * Notes: different runs seems to give different results for the playoffs. Not a very stable ‘prediction’.
    - Quadratic Classifier