

Washington University in St. Louis

## Washington University Open Scholarship

---

Spring 2018

Washington University  
Senior Honors Thesis Abstracts

---

Spring 2018

### Predicting the Outcomes of Batted Balls in Major League Baseball

Seth Karpel

*Washington University in St. Louis*

Follow this and additional works at: [https://openscholarship.wustl.edu/wushta\\_spr2018](https://openscholarship.wustl.edu/wushta_spr2018)

---

#### Recommended Citation

Karpel, Seth, "Predicting the Outcomes of Batted Balls in Major League Baseball" (2018). *Spring 2018*. 65.  
[https://openscholarship.wustl.edu/wushta\\_spr2018/65](https://openscholarship.wustl.edu/wushta_spr2018/65)

This Abstract for College of Arts & Sciences is brought to you for free and open access by the Washington University

Senior Honors Thesis Abstracts at Washington University Open Scholarship. It has been accepted for inclusion in Spring 2018 by an authorized administrator of Washington University Open Scholarship. For more information, please contact [digital@wumail.wustl.edu](mailto:digital@wumail.wustl.edu).

# PREDICTING THE OUTCOMES OF BATTED BALLS IN MAJOR LEAGUE BASEBALL

*Seth Karpel*

*Mentor: Victor Wickerhauser*

With the goal of building a predictor that can correctly determine whether or not a ball batted into play will result in a hit or an out, three classifiers are implemented—random forest (RF), support vector machine (SVM) and neural network (NN). The three individual classifiers are then aggregated into a final prediction, each equally weighted in a “voted” vector (requires agreement amongst at least two of the three classifiers to declare either “hit” or “out”). Three seasons, 2015, 2016, and 2017, were considered in building the predictor. The 2015 season, the first in which the MLB began tracking featured metrics such as “exit velocity,” served as the training set for the predictor, which eventually attempts to classify events from a pooled set of the remaining years.