

MLB HITTER PRODUCTION

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OVERVIEW

- Our MLB team wishes to improve upon its prior season record and win the World Series next season.
- Our offensive production was a weakness last season. We will use OPS (on-base plus slugging) to evaluate and predict player offensive performance.

DATA AND METHODS

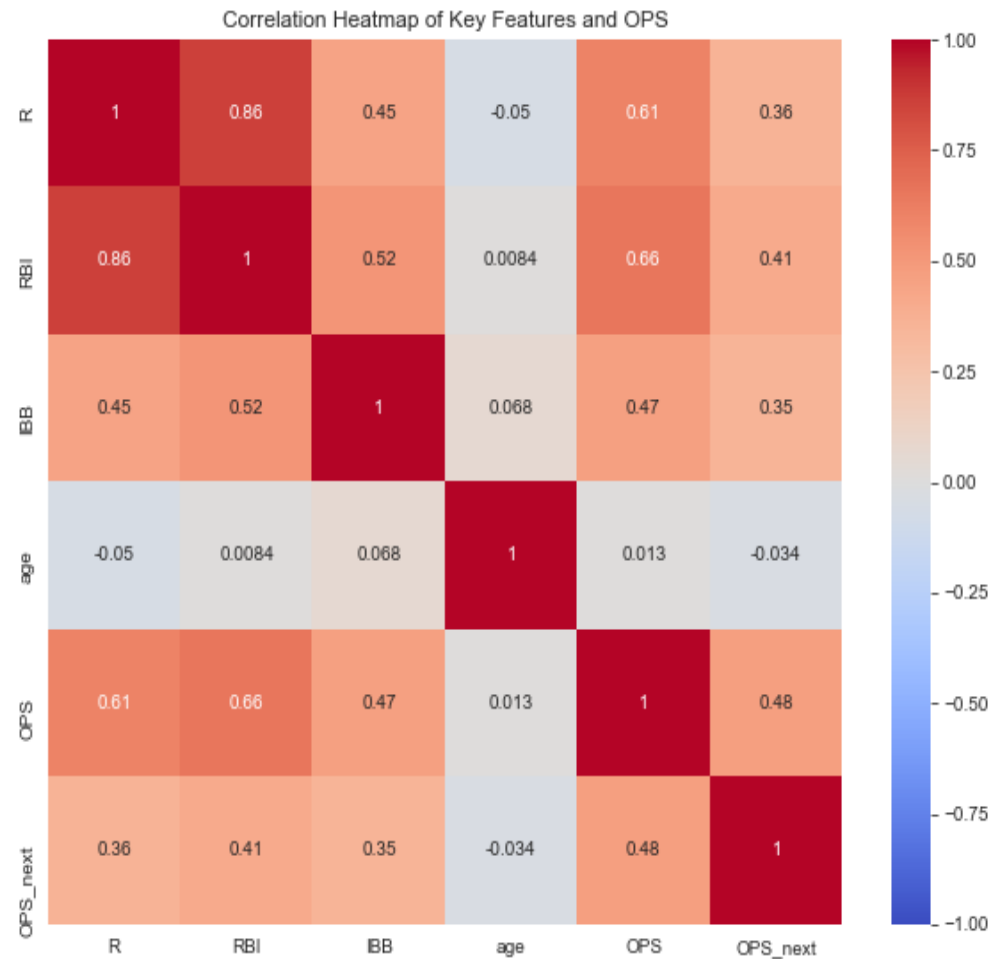
- Our dataset is obtained from Kaggle and is part of the Lahman Baseball Database, compiled by author and journalist Sean Lahman.
- Complete baseball statistics, player and team information, 1871-2024

LIMITATIONS

- The Lahman Baseball Database contains player salary information, but it does not contain player contract details.
- Acquiring the best players will typically involve a long, multi-year commitment... long-term implications!

FEATURE CORRELATION WITH OPS

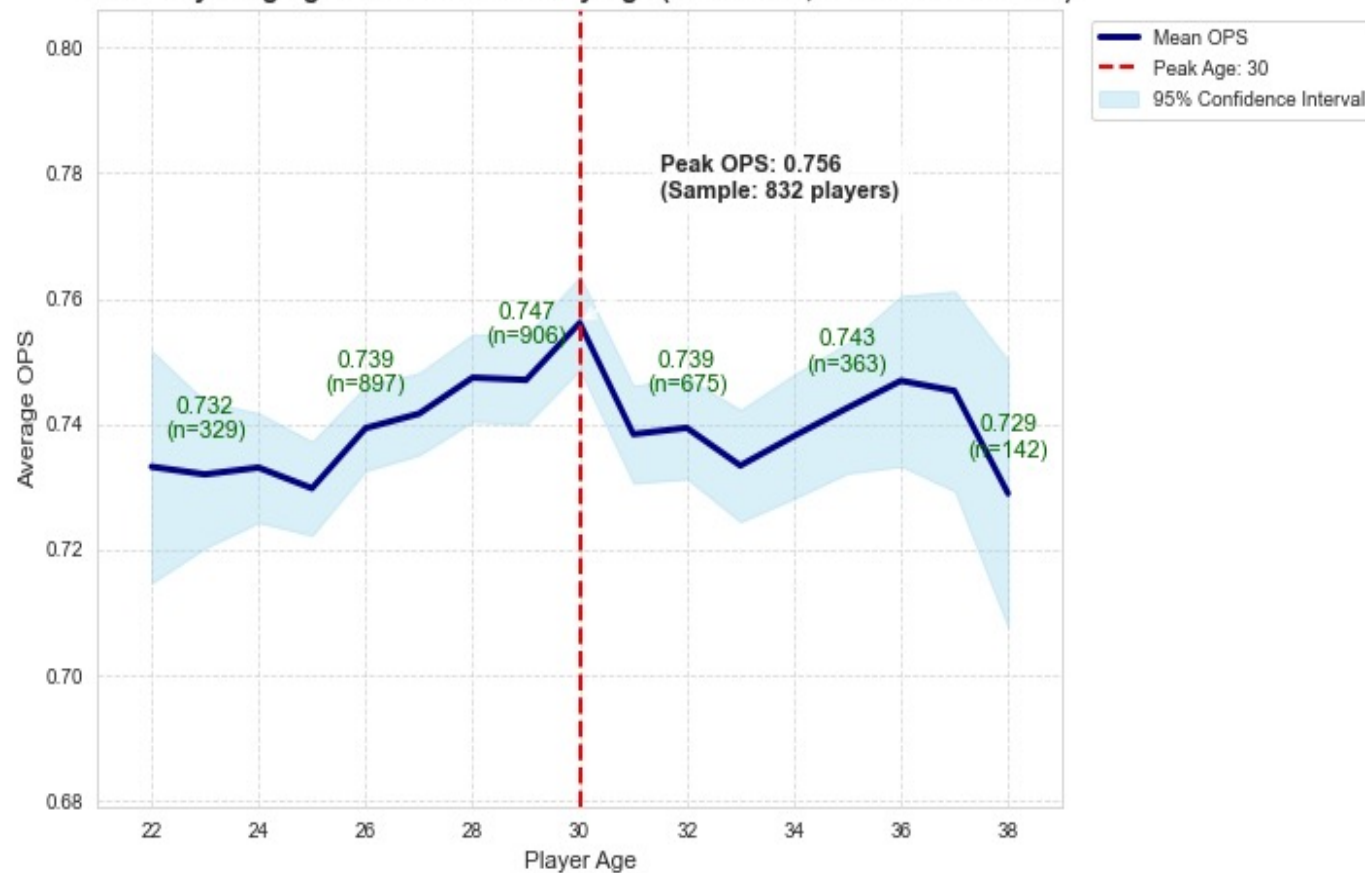
- Several offensive stats have a positive correlation with OPS.
- Negative correlation of age stands out



MLB PLAYER AGING CURVE

OPS peaks around age 28-30 and declines thereafter

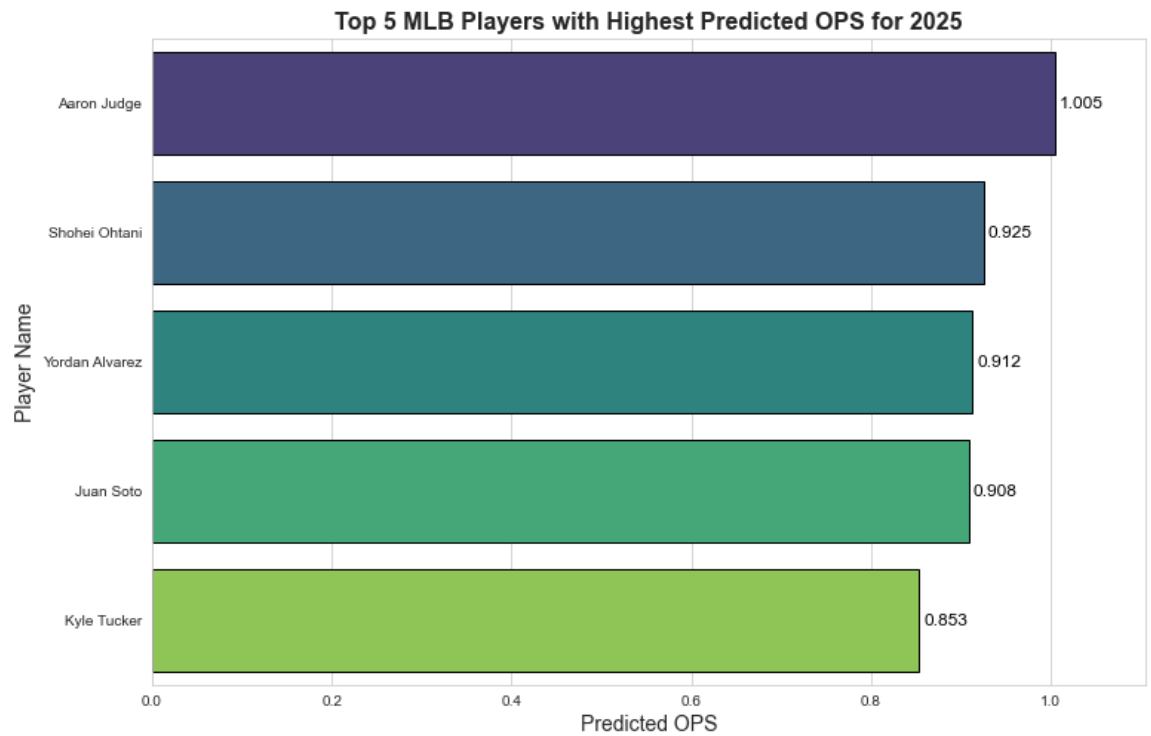
MLB Player Aging Curve: Mean OPS by Age (1990–2023, Filtered for $n \geq 100$)



PREDICTING OPS NEXT SEASON

Our best model predicted next season OPS with a MAE of 0.068.

The top 5 players with the highest predicted OPS in 2025 are Aaron Judge, Shohei Ohtani, Yordan Alvarez, Juan Soto, and Kyle Tucker.



RECOMMENDATIONS

- Consider totality of offensive stats but know that age has an outsize impact.
- Since OPS peaks around age 28-30, bear this in mind when offering or acquiring long-term player contracts.
- Prioritize Aaron Judge, Shohei Ohtani, Yordan Alvarez, Juan Soto, and/or Kyle Tucker.

NEXT STEPS

- Work player contract information into calculations.
- Player salary data can be added into the mix now to consider ROI on a year-to-year basis.

Thank you!

Questions are welcome.

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