

Luke Hamm

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Education

Wheaton College

Graduated May 2025

- *B.S. in Applied Mathematics (Concentration in Statistics)*
 - Relevant Courses: Calculus I–IV, Linear Algebra, Differential Equations, Probability Theory, Probability and Statistical Analysis, Visualization for Data Science, Analysis, Applied Machine Learning, Management Information Systems
 - NCAA Division III Baseball Player, Team Captain
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Work Experience and Projects

Data Resources Ltd. *Baseball Video Analyst*

2023 - 2024

- Collected and analyzed game data for Major League Baseball organizations, delivering insights for player assessment using both qualitative and quantitative methods.

Optimal Pitch Mechanics for Maximising Velocity (Capstone Project)

May 2025

- Built Random-Forest and MARS regression models on 30+ kinematic variables from Driveline's OpenBiomechanics database; best model (MARS) captured 91% of fastball-velocity variance ($R^2 = 0.91$).
- Partial-dependence analysis pinpointed shoulder and elbow external rotation as the most influential mechanics; a 5–10° adjustment predicts ~0.6–0.9 mph gains.
- Computed optimal ranges for five high-leverage metrics (e.g., elbow energy transfer, torso rotation) to deliver actionable, coach-friendly training targets.

Study Analyzing Relationship between Performance and Pay in MLB

April 2024

- Conducted an in-depth analysis of the relationship between MLB player salaries and their on-field performance.
- Collected and processed extensive player data, including performance metrics and salary information, to identify key trends.
- Used statistical methods such as regression analysis to model the impact of various performance indicators on player compensation.
- Visualized data insights to highlight discrepancies between salary and performance, contributing to discussions on financial efficiency in team management.

Cincinnati Reds Hackathon Project

February 2024

- Collaborative advanced data analysis working with large data sets of MLB statistics. Used predictive modeling to estimate which pitchers would be better suited in a new role.

Glove Relacing Business

2023 - 2024

- Founder of a business offering baseball glove relacing and conditioning services via Facebook Marketplace.
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Skills

- Programming Languages: R, Python
- Experience with SQL, Tableau, C++, LaTeX
- Proficient in Microsoft Excel, Access, and Power BI
- Proficient at leveraging generative-AI tools (e.g., ChatGPT-4o) for data scraping, rapid code debugging in R/Python, and interpreting model outputs to identify statistically significant features.