

Kieran Liming

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EDUCATION

Macalester College

Bachelor of Arts in Applied Math and Statistics, Bachelor of Arts in Physics

St. Paul, MN

Aug. 2016 – May 2020

Iowa State University

Pursuing PhD in Statistics

Ames, IA

Aug. 2020 – Present

EXPERIENCE

Varsity Pitcher

August 2016 – May 2020

Macalester College

St. Paul, MN

- Pitched for Macalester College's baseball team under head coach Matthew Parrington, and pitching coaches Casey Jacobson and Ben Moore.
- Used Driveline programming as a college athlete to develop as a pitcher, and to push teammates to improve.
- Worked with Rapsodo pitching unit, and helped coaches and players analyze data and feedback.

Assistant Pitching Coach

March 2021 – Present

Ames High School

Ames, IA

- Volunteer pitching coach at Ames High
- I specialized in helping athletes find mechanical shortcoming and designing training protocols to address these at practice.

Graduate Teaching Assistant

Aug 2020 – Present

Iowa State University

Ames, IA

- Teaching Assistant for STAT-101 introduction to statistics
- I am the lead instructor for two sections of STAT-101 at Iowa State University.

Graduate Research Assistant

June 2021 – August 2021

Iowa State University

Ames, IA

- Research assistant under Professor Petrutza and collaborated with Manju Johny
- I assisted Manju with her thesis project by running simulations on ISU's HPC.

PROJECTS

Major League Baseball Hall of Fame Ballot Longevity | *RStudio*

- This project used survival analysis to determine what attributes of a professional baseball player's career contributed to the amount of time he stayed on the Hall of Fame ballot. This project incorporated a competing risks model to differentiate players who were voted into the Hall of Fame versus players who did not receive enough votes to remain on the ballot.
- A major component of this project was a presentation with appropriate graphics to display statistical ideas of survival analysis. Most graphics used in this presentation were made with the ggplot2 package in Rstudio.

Bayesian Analysis of Zero MPH Exit Velocity Fastballs during the 2019 Season | *RStudio, LaTeX*

- This is a simple Bayesian analysis of fastball characteristics and outcomes using JAGS in RStudio. I used pitch velocity to model the probability that the pitch was put into play as a function of just the pitch and then by individual pitchers. It would be easy to expand this model to include more factors and pitch types.

Practical Spin Factor Calculation for the Magnus Force on a Pitched Baseball | *RStudio, LaTeX, Rapsodo*

- This is an application of classical mechanics to study the motion of a pitched baseball. This primarily used differential equations to describe the motion of a baseball with specific care to model and measure the magnus force due to the ball's spin. This project used Rapsodo data as a reference for hand calculations of the flight path of pitches given certain initial conditions such as spin rate, spine direction, and velocity.

Player Clustering for the Minnesota Wild | *RStudio*

- Worked as an analytics Intern for the Minnesota Wild, with a specific focus on player clustering and player archetypes. This involved using methods in machine learning such as hierarchical clustering.

SUPPLEMENTAL INFORMATION

Technical Skills: RStudio, SAS, LaTeX, Rapsodo, Mathematica

Athletic interests: Analyzing biomechanical data to test efficacy of programming, analyzing longitudinal training data