

# LIAM J. RYAN

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Biomechanics specialist with multiple years of experience supporting force plate systems and applied performance testing in elite-level performance organizations, including professional baseball. Background includes sport-specific measurement system development, motion capture integration, and independent applied baseball analytics using public tracking and biomechanics datasets.

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## TECHNICAL SKILLS

- Biomechanics: Force plates, data quality control, performance testing workflows, sport-specific measurement systems, motion capture integration
  - Analytics: Python, R, SQL
  - Biomechanics Data: Exploratory analysis using OpenBiomechanics (Driveline) datasets
  - Other: Conversational Spanish
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## PROFESSIONAL EXPERIENCE

**Kistler Instrument Corp.** - Novi, MI

### **Application Specialist, Biomechanics | Jun 2023 - Jan 2026**

- Oversaw North American force plate operations in elite sport performance and research environments
- Implemented and troubleshooted performance testing workflows to ensure valid, reliable data collection
- Led development of sport-specific measurement solutions, including baseball-focused applications (instrumented mound/batter's box)
- Optimized installations with emphasis on motion capture integration
- Member: Society for American Baseball Research (SABR), American Baseball Biomechanics Society (ABBS)

### **Sales Operations Engineer, Industrial Production | Jan 2022 - Jun 2023**

- Provided technical application support for force and pressure sensors in manufacturing systems
  - Conducted cost and revenue analysis supporting cross-functional partnership decisions
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## INDEPENDENT BASEBALL ANALYTICS & RESEARCH

- Analyze Statcast and FanGraphs data using Python, R, and SQL to explore performance trends and year-to-year changes
- Evaluate swing speed distributions, contact point proxies, and batted-ball tendencies to contextualize offensive output
- Develop reproducible workflows for data cleaning, feature extraction, visualization, and reporting
- Explore public biomechanics datasets to build familiarity with time-series variables and sequencing concepts
- Focus on evaluating rookie performance and estimating WAR production within debut seasons

**Selected projects:** [liam-ryan.netlify.app](https://liam-ryan.netlify.app)

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## ADDITIONAL EXPERIENCE

**Michigan State University Football** - East Lansing, MI

### **Student Equipment Manager (Head Student Manager, Final Season) | 2018 - 2021**

- Supported daily operations for a Power 5 football program, coordinating practice and gameday logistics across coaching, performance, athletic training, nutrition, and operations staff
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## EDUCATION

**Michigan State University**

**Bachelor of Engineering, Applied Engineering Sciences (Supply Chain Management)- Dec 2021**