

HUGO J. BELISARIO

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EXPERIENCE

Arizona Diamondbacks

Scottsdale, AZ

Lab Assistant, Player Development

November 2024 – September 2025

- Managed daily pitching lab operations and data collection using KinaTrax, Newtforce, Trackman, and Edgertronic systems.
- Collaborated with S&C, Medical, and Pitching departments to integrate lab insights into individualized development plans.
- Automated post-processing and built centralized database to unify lab data, accelerating research and reporting workflows.
- Designed innovative assessments applying current research to optimize throwing programs and support injury prevention.

Toronto Blue Jays

Dunedin, FL

Technology Assistant, Player Development Complex

January 2024 – October 2024

- Oversaw video and technology systems for Spring Training, the Florida Complex League, Rehab, and off-season camps.
- Ran pitching lab assessments, operating KinaTrax, Edgertronic, and TrackMan simultaneously to capture assessment data.
- Translated organizational pitching biomechanics guide and player plans for Spanish-speaking coaching staff and players.
- Analyzed preliminary results from novel hitting project involving the use of Trajekt for zone identification sessions.

Driveline Baseball

Kent, WA

Baseball Operations, Pitching Analyst

October 2020 – August 2022

- Worked in a dual role as a throwing trainer and analyst for the Pitching and Research & Development departments.
- Led athletes through their assessment week, delivering thorough presentations on their biomechanics report and program.
- Supervised data collection efforts for command training, pitch grips, new tracking technology, and PlyoCare balls.
- Adapted training protocols for Spanish-speaking athletes from the Philadelphia Phillies organization.
- Produced custom reports and analyses for personnel using internal tools and databases to support pitching development.
- Created and managed R Shiny dashboards for Pitching, Hitting, and Research & Development departments.

RESEARCH & APPLICATIONS

Pitching Lab Dashboard

- Built Streamlit application enabling the comparison of pitcher kinematics and kinetics across sessions and against custom MLB control groups, combining discrete and time-series data from KinaTrax and Newtforce.

Biomechanics Viewer

- Created Streamlit application with PostgreSQL backend to manage frame-by-frame motion capture data and visualize segment energy flows and kinetics at key moments in the pitching delivery.

Effects of Grip and Finger Strength on Baseball Spin Rate

- Led in-gym data collection and conducted statistical analysis for study which has garnered over 3,500 downloads and been cited in numerous theses and academic publications.

Pitch Grips Dashboard

- Created R Shiny app to classify MLB and in-gym pitch grips, pairing with Rapsodo, Trackman, and Statcast data to analyze movement and quality trends.

PlyoCare® Velocity Calculator

- Built R Shiny App to guide plyo ball velocity drills, instrumental in launching a new set of plyo balls and their training adoption in overload and underload focused phases.

Command Training Baseball Study

- Directed in-gym study on the effects of varying baseball size and weight on command towards the middle-middle location.

SKILLS

Programming: Python, R, SQL, PostgreSQL, Streamlit, R Shiny, AWS, DigitalOcean, Microsoft Office, Adobe Creative Suite

Baseball Technology: Visual3D, KinaTrax, Newtforce, Trackman, Edgertronic, Trajekt, Rapsodo, Blast Motion, HitTrax

Coaching: Return-To-Throw Progressions, Arm Care Protocols, Biomechanics Analysis, Throwing Program Design

Languages: English (main), Spanish (fluent)

EDUCATION

Northwestern University | *Weinberg School of Arts and Sciences*

Evanston, IL

Bachelor of Arts | Majors: Economics and Statistics

September 2016 – June 2020