Mound Signal

Real-Time Pitching Intelligence & Fatigue Detection

An audience-facing overview of Baseball Brain's mound-management signal, team, and methodology for MLB analytics executives.

PLATFORM FOCUS

- Pitcher-specific stuff and command trends
- Zone-control and outcome pressure signals
- Live decision windows for mound-management support
- Auditable methodology built for club review

Prepared for Analytics Executives at MLB Teams

Spencer Rohan & Jordan Rohan

THE MODEL

High-level pull signal architecture

Deterministic weighted model with normalized component scores and MLB outcome-window calibration.

PULL SIGNAL = Stuff + Command + Outcome Pressure + Game Context

Stuff Baseline

Velocity and spin are tracked by pitch family and pitch type, then compared against historical or early-game baselines.

Command / Zone Control

Uses actual pitch-location volatility and distance from competitive zones; avoids claiming knowledge of the intended target.

Whiff Context

Whiff loss is adjusted for hitter swing-and-miss tendency so low-whiff lineups are not over-penalized.

Contact Pressure

Recent exit-velocity pressure confirms degradation when stuff or command signals are also moving the wrong way.

Pitcher-Specific Decay

Inning and times-through-order effects are benchmarked against the pitcher's own historical patterns when sample allows.

Trend Visibility

Pitch-type velocity and spin trends show whether a decline is persistent or only a one-pitch outlier.

NORMALIZED WEIGHTING LAYER

Current production remains deterministic, with component groups normalized before scoring: stuff/spin, command/zone, whiff/contact, mix/context.

CALIBRATION

Weights are being scored against MLB outcome windows: damage after signal, delayed-hook damage, and preventable-run opportunities.

THE PEOPLE

The Baseball Brain team

Founders, builders, and advisors behind Mound Signal.

SR

Spencer Rohan

Founder & Product Visionary

North Broward Preparatory School junior. Baseball Brain began as his data-and-sports passion project.

JR

Jordan Rohan

Founder & CEO

Wall Street veteran recognized for analysis of transformative growth companies and advisor to TMT executives and investors.

CA

Craig Aron

Chief Product Officer & CTO

Technology-company veteran focused on using modern AI tools to create and operate new businesses.

TS

Prof. Thomas More Smith

Faculty Advisor, Emory University

Tenured professor specializing in labor economics, pricing, sports economics, and entertainment finance.

TECHNICAL DEEP DIVE

Anticipated Q&A

Architecture, data sources, and methodology questions from the GM's desk.

What raw data feeds the model?

Baseball Savant / Statcast pitch stream and MLB StatsAPI inputs. No third-party or scraped data.

How does the degradation score work?

A weighted pitch-by-pitch composite measures signals against the pitcher's own seasonal baseline.

What makes the leverage index different?

It combines inning depth, base runners, outs, score proximity, and win-expectancy balance.

How is delay tax calculated?

Realized delay tax is the win-probability gap between the first signal and the actual change.

What are the decision outputs?

STAY, WATCH, PREP, and PULL_NOW, assigned per decision window with impact and leverage context.

What's the data latency?

Pitching audit decisions are designed around near real-time play-by-play availability.