Shrine Bowl x SūmerSpors

Analytics Competition

Improve Secondary Prospect Evaluation at the East-West Shrine Bowl

By: Kyle Berry

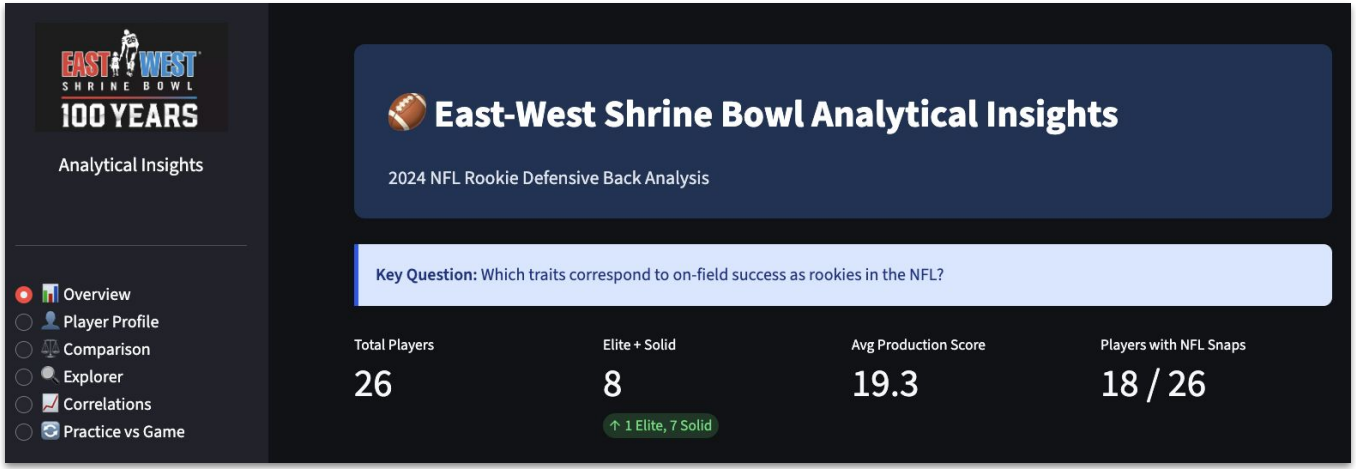
Project Overview

OBJECTIVE

- ➔ Build an analytical tool to better evaluate secondary players, using past Shrine Bowl prospects and data
- ➔ Assess how athletic traits, measurables, college stats, and East-West Shrine Bowl in-game athleticism correlate with NFL rookie success for defensive backs

OUTCOME

- ➔ Current version - secondary evaluator web application with player profiles, comparison views, correlation with rookie production, and Shrine Bowl practice vs. game insights
- ➔ Future version - incorporates all position groups



Key Datasets & Application Functionality

Key Datasets

NFL Production Data
Total snaps, coverage yards allowed, INTs, PBUs, tackles (weighted by snaps)

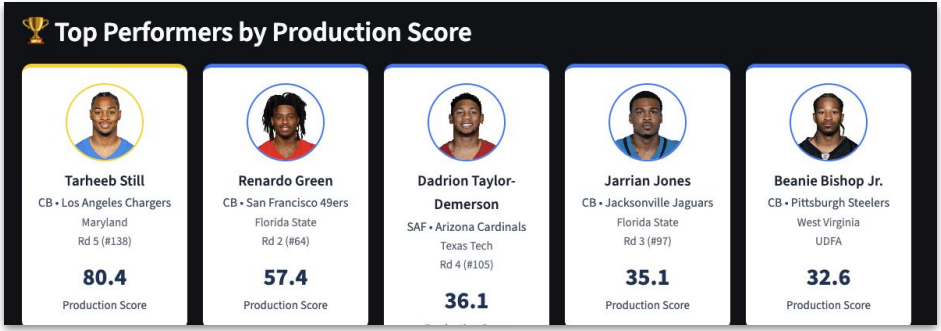
SIGA Scores - Game & Practice Tracking Data
Max speed, acceleration, burst score, agility metrics

Test Results & Measurables
40-yard dash, 3-cone, vertical, broad jump, height, weight

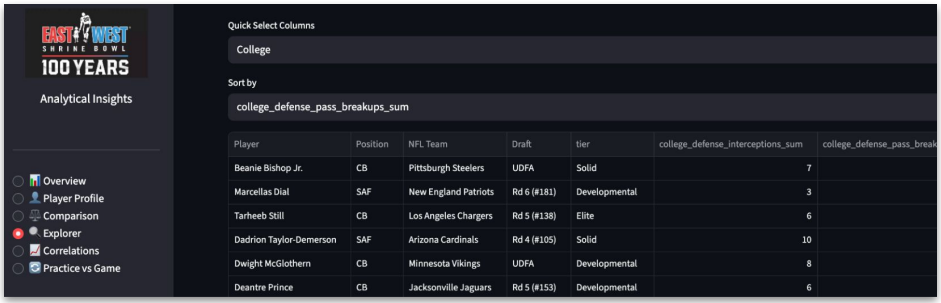
College Career Statistics
Interceptions, pass breakups, total tackles, TFLs

Draft & Background
Draft position, recruiting stars, school, conference

Analyze Past Rookie Top Performers



Interactive Drill-Down on Key Stats



NFL Rookie Production Score - Methodology

PRODUCTION SCORE FORMULA

Total Rookie Snaps × Production Efficiency

Efficiency Score (Mean) - CB

- **Coverage (40%)**
  Yards allowed per coverage snap
- **Playmaking (33%)**
  (INTs + PBUs) per 100 snaps
- **Tackling (27%)**
  Tackles per 100 snaps

Efficiency Score (Mean) - SAF

- **Coverage (33%)**
  Yards allowed per coverage snap
- **Playmaking (27%)**
  (INTs + PBUs) per 100 snaps
- **Tackling (40%)**
  Tackles per 100 snaps

Applied Bayesian Shrinkage: All rate stats adjusted for sample size. Small samples regressed toward league average (prior = 200 snaps).

TIER CLASSIFICATION CRITERIA

🏆 **ELITE ROOKIE PRODUCTION** — 1 player (3.8%)

300+ snaps • Top 25% in 2+ components • No bottom 25%

✓ **SOLID ROOKIE PRODUCTION** — 7 players (26.9%)

100+ snaps • Top 25% in 1+ component OR Top 50% in all

📈 **DEVELOPMENTAL PLAYER** — 10 players (38.5%)

Has snap data • Doesn't meet Elite/Solid criteria

— **N/A CONTRIBUTOR** — 8 players (30.8%)

Not enough snap data available • Didn't play as a rookie

Rookie Year Assessed	Score Range	Weights
2024	**0-100**	**Position Specific**

SIGA - Athleticism Score Methodology

What is SIGA? *Secondary In-Game Athleticism*

Metrics derived from player movement data during East-West Shrine Bowl games and practices.

Key SIGA Insights

Practice scores are higher than game scores - indicating that cornerbacks and safeties are *more likely to display their peak athleticism* and SIGA scores during repeated, functional drills, as opposed to in-game action.

FOUR CORE COMPONENTS

SPEED Max velocity achieved (MPH)

BURST Acceleration events per 100 frames

EXPLOSIVE Peak acceleration capability

AGILITY Direction changes at speed per 100 frames

TWO DATA CONTEXTS

GAME SIGA

NFL regular season tracking

Measures athletic output in competitive game situations. Higher pressure, more variable conditions.

Max Speed (MPH)	Max Acceleration	Max Burst Score
19.16 Avg	7.16 Avg	26.61 Avg

PRACTICE SIGA

Training session tracking

Measures athletic output in controlled training environment. More consistent conditions, higher volume.

Max Speed (MPH)	Max Acceleration	Max Burst Score
19.49 Avg	7.7 Avg	32.58 Avg

Evaluator App - Answer Key Scouting Questions

Which prospect traits translate to tackling in the NFL?

Trait / Metric

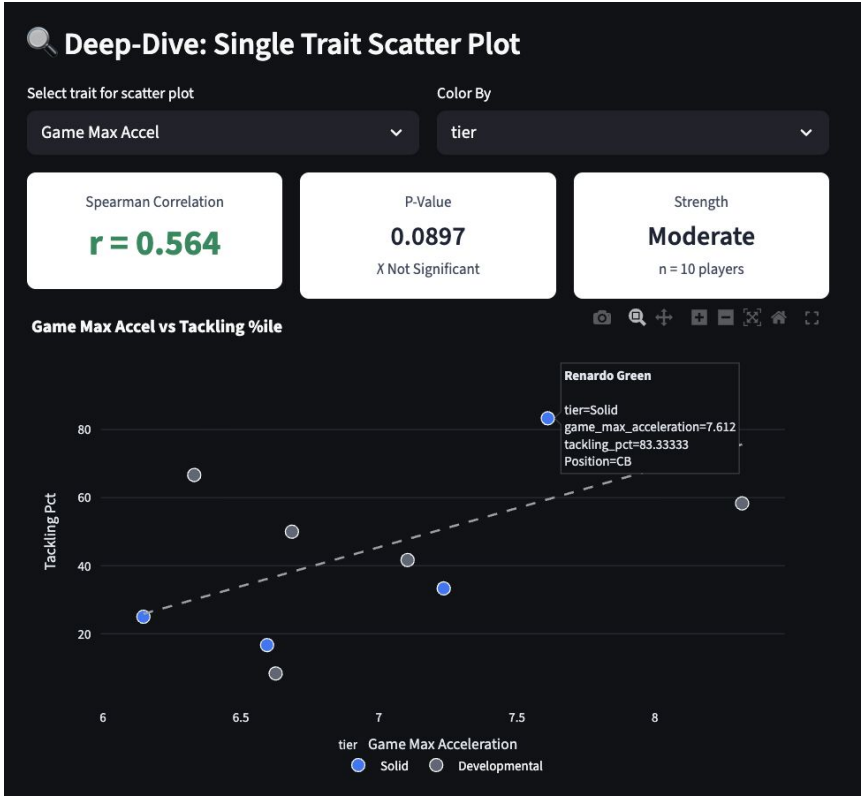
- ➔ Shrine Bowl Game Max Acceleration (SIGA) vs NFL Rookie Tackling Percentile (r = 0.564)
- ➔ Moderate-to-strong positive correlation

What This Could Mean

- ➔ Players who can accelerate faster in games tend to be better tacklers. For the following reasons:
  - ◆ **Closing speed** — high acceleration helps DBs close gaps quickly to make tackles
  - ◆ **Breaking on the ball carrier** — burst to change direction and arrive at the tackle point
  - ◆ **Recovery ability** — accelerating out of a false step or after being juked

Other Observations

- ➔ College total tackles and weight are also moderately strong correlated



Evaluator App - Answer Key Scouting Questions

Which prospect traits translate to efficient pass coverage in the NFL?

Trait / Metric

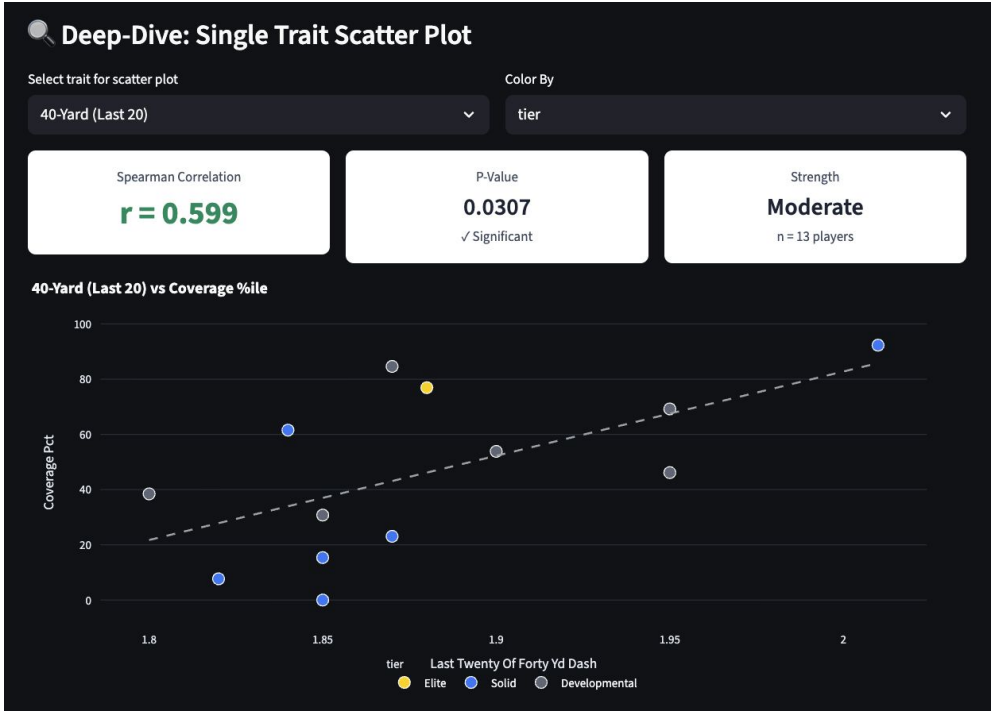
- ➔ 40 Yard Dash (Last 20 Yards) vs NFL Rookie Coverage Percentile (r = 0.599)
- ➔ Moderate-to-strong positive correlation
- ➔ Slower top end speed = better coverage.. is this counterintuitive?

What This Could Mean

- ➔ **Body type tradeoff** — bigger/heavier DBs may be slower in the last 20 but better in press coverage, physicality at catch point, or jam technique
- ➔ The explosive metrics (vertical, broad jump) trending in the expected direction could suggest short-area explosiveness matters more than straight-line speed for coverage success

Takeaway

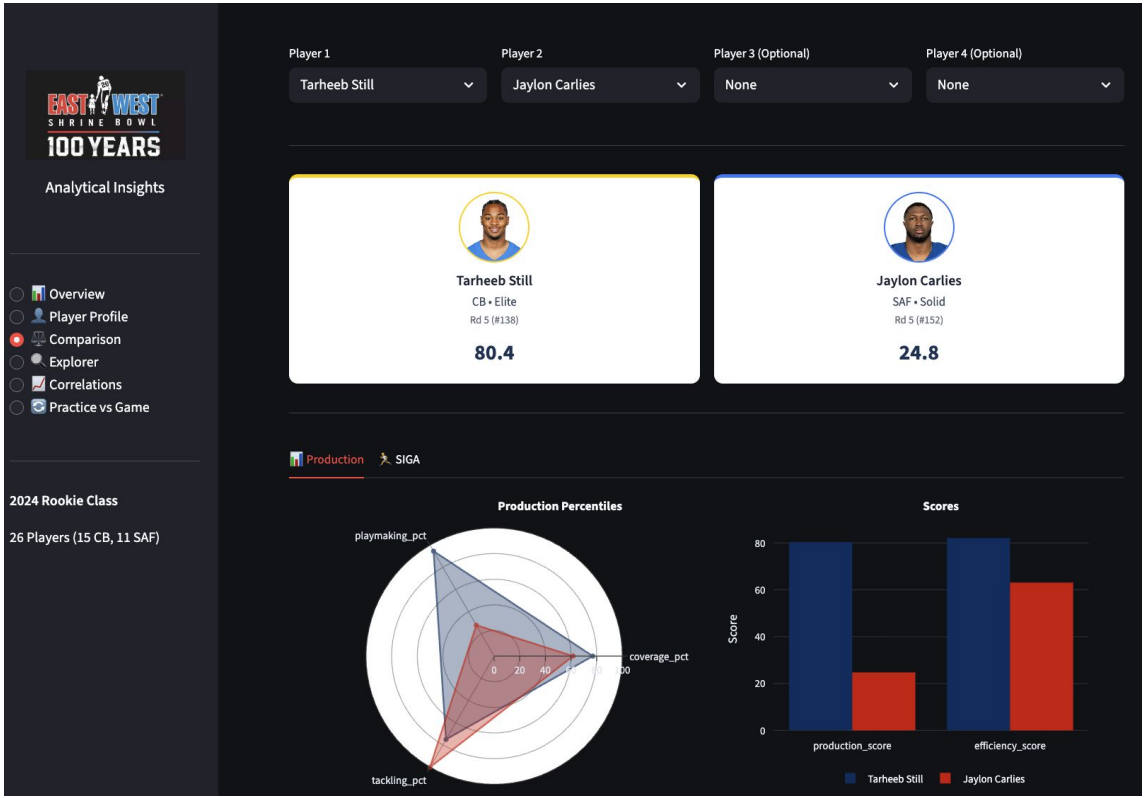
- ➔ Too small of sample size, need to investigate further



Key Application Functionality for Scouts

How to Use the Evaluator App

Tab	Purpose
Overview	Tier distribution and top 5 performers
Player Profile	Individual player deep-dive with all metrics
Comparison	Side-by-side radar charts for 2-5 players
Explorer	Filterable, sortable data table
Correlations	Which traits predict NFL success?
Practice vs. Game	View SIGA comparisons



Limitations & Opportunities for Further Analysis

LIMITATIONS

- ➔ This version of the application was built for 2024 Shrine Bowl secondary prospect analysis specifically, due to full data availability with game and tracking datasets, plus demonstrated rookie production in a full season.
- ➔ Additional years of secondary data will be added in a future iteration.

FURTHER ANALYSIS

- ➔ Incorporate all position groups.
- ➔ Continue to assess SIGA scores for larger prospect populations and understand how Shrine Bowl practice / game tracking data can help assess future rookie performance.

Contact Kyle Berry to try the application or learn more about the project!

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