

Shrine Bowl x SūmerSpors  
Analytics Competition

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Improve Secondary Prospect Evaluation at  
the East-West Shrine Bowl

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# 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

The screenshot displays the user interface of the analytical tool. At the top left is a vertical sidebar with the 'EAST WEST SHRINE BOWL 100 YEARS' logo and a 'Analytical Insights' section. Below this are six menu items with icons: Overview (red dot), Player Profile (blue person), Comparison (grey circle), Explorer (grey dot), Correlations (grey square), and Practice vs Game (blue square). The main content area has a dark blue header with a football icon and the title 'East-West Shrine Bowl Analytical Insights'. Below it is a sub-header '2024 NFL Rookie Defensive Back Analysis'. A light blue callout box contains the question 'Key Question: Which traits correspond to on-field success as rookies in the NFL?'. At the bottom, there are four data cards: 'Total Players' (26), 'Elite + Solid' (8, with a note '↑ 1 Elite, 7 Solid'), 'Avg Production Score' (19.3), and 'Players with NFL Snaps' (18 / 26).

Total Players	Elite + Solid	Avg Production Score	Players with NFL Snaps
26	8 ↑ 1 Elite, 7 Solid	19.3	18 / 26

# 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

### Top Performers by Production Score



Tarheeb Still

CB • Los Angeles Chargers  
Maryland  
Rd 5 (#138)

**80.4**

Production Score



Renardo Green

CB • San Francisco 49ers  
Florida State  
Rd 2 (#64)

**57.4**

Production Score



Dadrian Taylor-Demerson

SAF • Arizona Cardinals  
Texas Tech  
Rd 4 (#105)

**36.1**

Production Score



Jarrian Jones

CB • Jacksonville Jaguars  
Florida State  
Rd 3 (#97)

**35.1**

Production Score



Beanie Bishop Jr.

CB • Pittsburgh Steelers  
West Virginia  
UDFA

**32.6**

Production Score

## Interactive Drill-Down on Key Stats



Analytical Insights

- Overview
- Player Profile
- Comparison
- Explorer
- Correlations
- Practice vs Game

Quick Select Columns

College

Sort by

college\_defense\_pass\_breakups\_sum

Player	Position	NFL Team	Draft	tier	college_defense_interceptions_sum	college_defense_pass_breakups_sum
Beanie Bishop Jr.	CB	Pittsburgh Steelers	UDFA	Solid	7	32.6
Marcellas Dial	SAF	New England Patriots	Rd 6 (#181)	Developmental	3	57.4
Tarheeb Still	CB	Los Angeles Chargers	Rd 5 (#138)	Elite	6	80.4
Dadrian Taylor-Demerson	SAF	Arizona Cardinals	Rd 4 (#105)	Solid	10	36.1
Dwight McGlothen	CB	Minnesota Vikings	UDFA	Developmental	8	35.1
Deandre Prince	CB	Jacksonville Jaguars	Rd 5 (#153)	Developmental	6	0

# 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

2024

Score Range

0-100

Weights

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.

## 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

## 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.

## 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

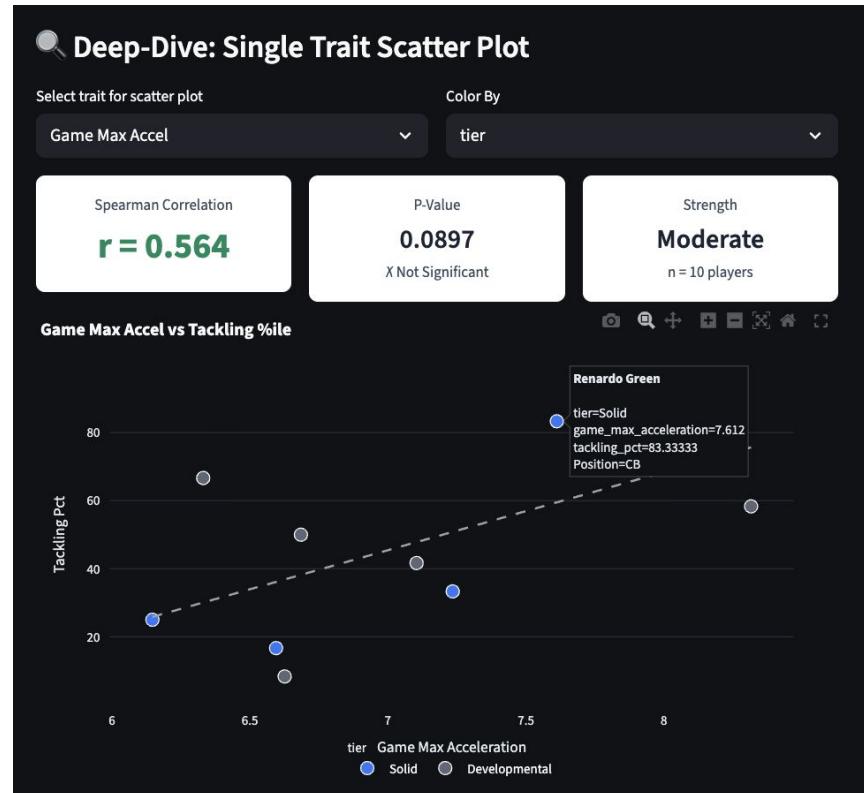
- Shrine Bowl Game Max Acceleration (SIGA) vs NFL Rookie Tackling Percentile ( $r = 0.564$ )
- Moderate-to-strong positive correlation

### 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

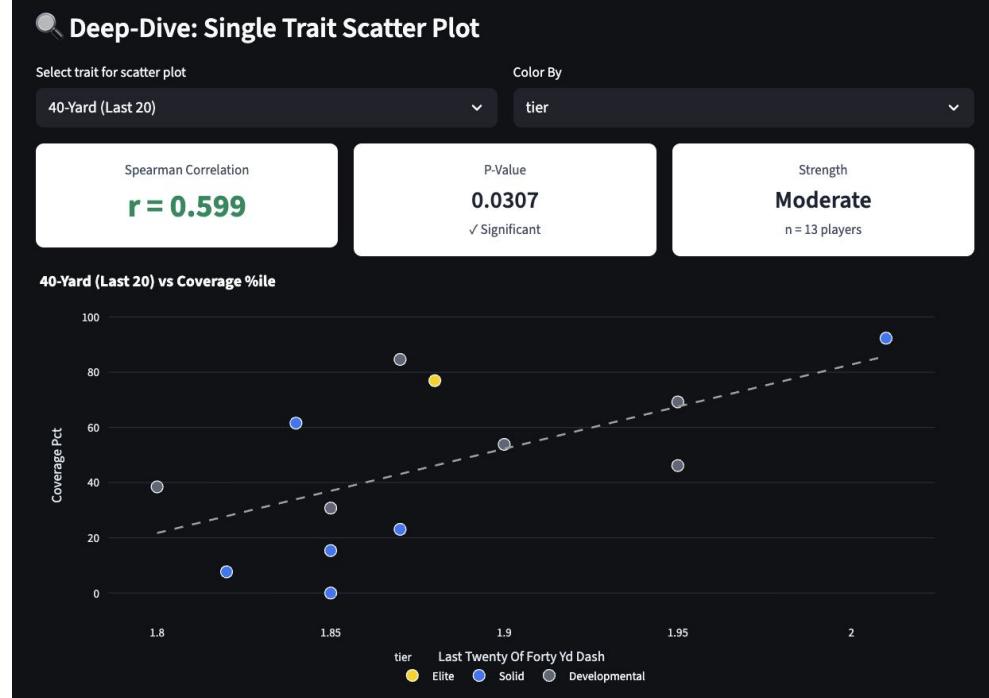
- 40 Yard Dash (Last 20 Yards) vs NFL Rookie Coverage Percentile ( $r = 0.599$ )
- Moderate-to-strong positive correlation
- Slower top end speed = better coverage.. is this counterintuitive?

### 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

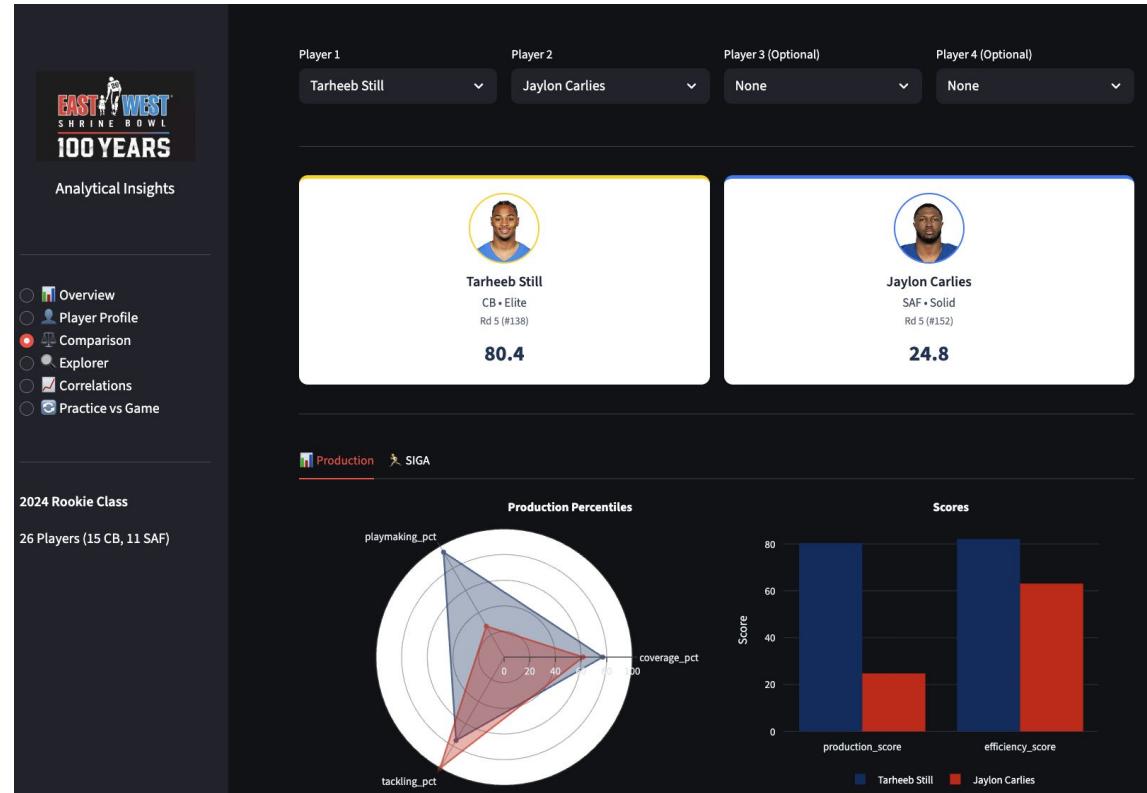
- Too small of sample size, need to investigate further



# 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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