



Real-Time Value: A Model for Exchange-Sportsbook Edge Capture

By: Joseph Masri and Eli Weiss

How Sports Exchanges Differ from Sportsbooks

- Sportsbooks set odds using internal pricing models and risk constraints.
- Bettors can only take the displayed line; no negotiation.
- Exchanges work like marketplaces — users post both sides of a bet.
- A bet becomes live when someone takes the other side - pure price discovery.

Sports Exchanges



Sportsbooks



Why These Inefficiencies Exist and How We Use Them

- In pregame markets, exchanges often move before sportsbooks react.
- Why? Sharp bettors can't get size down on books due to limits on their accounts.
- So they go to the exchange to post lines based on their own models.
- We use these sharp exchange bets as a signal and immediately take the same side on sportsbooks at better odds before the book adjusts.

Core Strategy:

Identify → Validate → Execute

① Identify

- Continuously monitor exchange markets (e.g., ProphetX) for new bets placed
- Look for sudden volume on one side of a line → signal of sharp action
- Track matching markets on sportsbooks (DraftKings, BetRivers, etc.)

② Validate

- Calculate the arbitrage % between exchange and sportsbook lines
- Filter only if arb % is above a certain threshold (e.g. 1.00%)
- Confirm the ProphetX volume is above a minimum (e.g. \$1,500)

$$\text{Arb \%} = \left(\frac{\text{dec}_a \times \text{dec}_b}{\text{dec}_a + \text{dec}_b} - 1 \right) \times 100$$

③ Execute

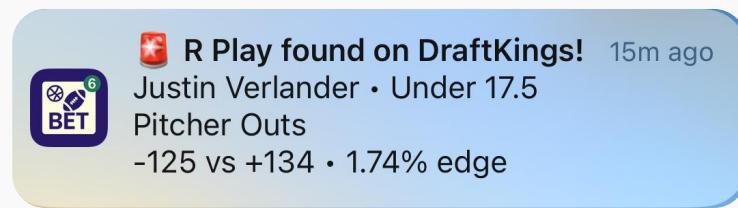
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Conceptual Model



Initial Odds

Our edge lies in capturing value before sportsbooks react to the sharper exchange market.



Adjusted Odds

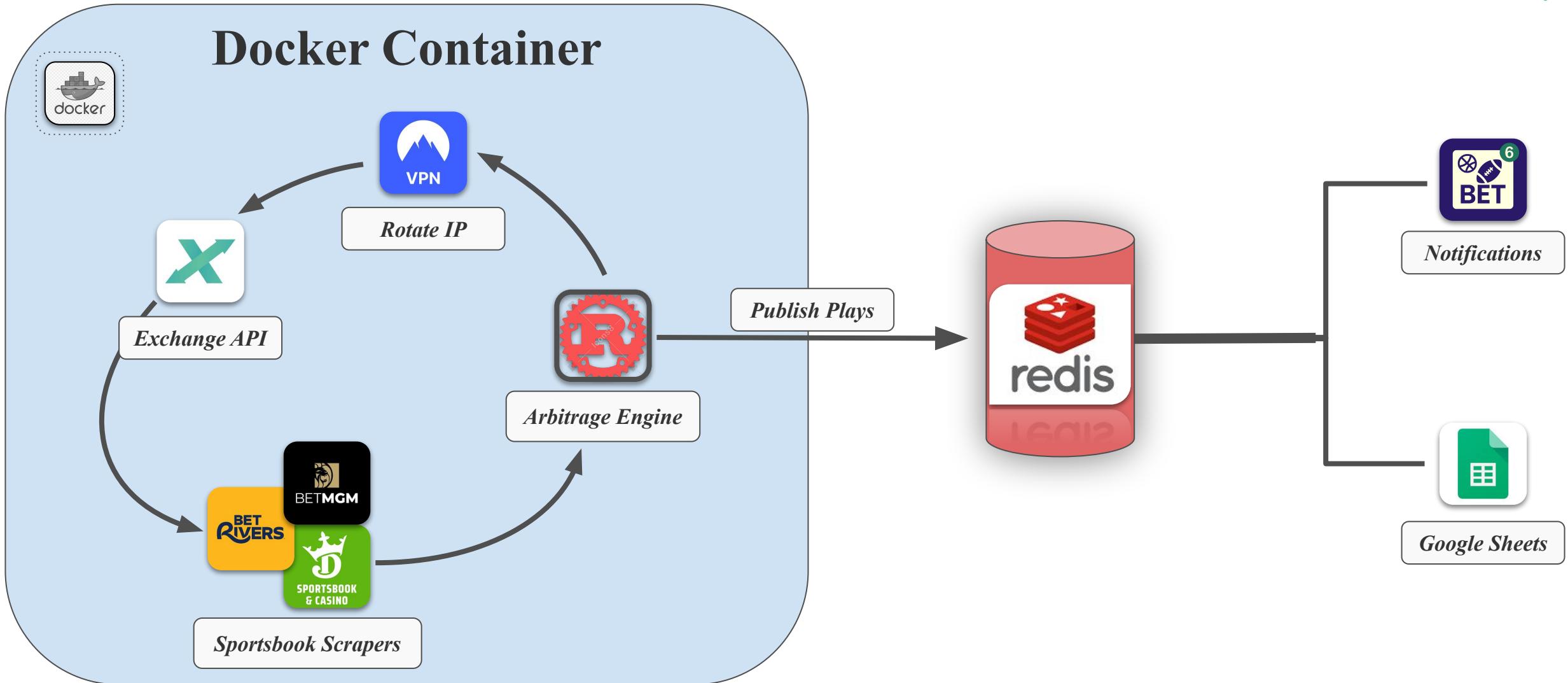


Notification



Data Flow / Architecture

Docker Container



Sample Bet Opportunity

Raw JSON

```
},  
"213b2588-9695-468a-b6e7-2f16a89619e4": {  
  "arb_percent": 7.441860465116279,  
  "arb_volume": 1541.5,  
  "bet_string": "Under 17.5 Pitcher Outs",  
  "book_odds": 120,  
  "book_player_name": "tony gonsolin",  
  "category": "Pitcher Outs",  
  "combo_key": "Tony Gonsolin|Pitcher Outs|17.50|Under|May 6, 2025 6:40 PM",  
  "event_time": "2025-05-06T22:40:00Z",  
  "league": "MLB",  
  "line": 17.5,  
  "matchup": "Los Angeles Dodgers @ Miami Marlins",  
  "player_string": "Tony Gonsolin",  
  "prophetx_odds": 110,  
  "prophetx_player_name": "tony gonsolin",  
  "side": "Under",  
  "sportsbook": "DraftKings",  
  "timestamp": "2025-05-06T07:16:47.210498296+00:00",  
  "unique_bet_key": "213b2588-9695-468a-b6e7-2f16a89619e4"  
},
```

Play Card

Matchup	Los Angeles Dodgers @ Miami Marlins
Player	Tony Gonsolin
Bet String	Under 17.5 Pitcher Outs
Sportsbook	DraftKings
Book Odds	+120 
ProphetX Odds	+110 
Arb Volume	\$1541.5
Arb Percent	7.44%
Time Stamp	April 28, 2025 — 9:14 PM UTC

Challenges & Tradeoffs

1) Scaling vs. Speed

- a) Expanding to more books and markets increases coverage but slows execution — increasing the delay between when an opportunity arises and when we detect it.

2) Risk of Limits & Voids

- a) Strong CLV over time attracts restrictions; books may start limiting accounts

3) Short-Term Volatility

- a) Even with long-run profitability, variance in outcomes can lead to short-term drawdowns and uncertainty.

Performance & Results

1) Latency Overview

- a) Our system cycles through 15–30 events every 10–35 seconds, depending on randomized delay settings and VPN speed.
- b) Balanced to minimize detection risk while maintaining timely execution.

2) Performance

- a) Results shown across books, volume filters, and arb % thresholds.

	SportsBooks										
	BetRivers	Caesars	Bet365	BetMGM	Draftkings	ESPN BET	Fanduel	Fanatics	Hard Rock	Pinnacle	
# Of Bets vs. ProphetX	334	14	2282	849	887	447	189	451	434	227	6386
# Of Bets vs. Novig	674	14	3363	1290	1238	1207	338	643	823	457	10536
Total # Of Bets	1008	28	5645	2139	2125	1654	527	1094	1257	684	16922
ProphetX P&L	\$3,660.17	-\$440.37	\$10,445.38	\$5,053.35	\$5,420.50	\$816.27	\$2,931.74	\$7,399.81	\$3,029.83	-\$2,129.90	\$39,420.29
Novig P&L	\$3,203.24	\$98.89	\$37,704.69	\$7,093.44	-\$4,020.34	\$4,032.26	-\$437.18	\$3,666.70	\$4,142.69	\$2,598.54	\$62,846.99
Total P&L	\$6,863.40	-\$341.48	\$48,150.07	\$12,146.79	\$1,400.16	\$4,848.52	\$2,494.56	\$11,066.52	\$7,172.52	\$468.64	\$102,267.28
# Of Bets vs. ProphetX W/ Min	207	7	1762	664	719	338	152	345	299	186	4877
W/ Vol Min P&L	\$1,690.56	-\$316.51	\$8,512.14	\$4,540.99	\$4,656.38	\$518.11	\$2,759.45	\$6,014.68	\$1,970.77	-\$2,110.33	\$30,486.18
# Bets Open Arb Min 1500	133	0	1,079	388	526	197	111	212	181	145	3,109
Open Arb Vol Min P&L	\$1,564.68	\$0.00	\$6,740.66	\$2,516.92	\$3,245.29	\$309.03	\$1,872.18	\$3,377.84	\$343.63	-\$1,713.13	\$18,374.16

Performance & Results

	Without Volume Threshold								
	Less than 1.5%	1.5 - 1.99%	2 - 2.49%	2.5 - 2.99%	3 - 3.49%	3.5 - 3.99%	4 - 4.49%	4.5%+	Total
# Of Bets vs. Novig	6241	1706	1552	762	568	387	208	707	12131
Novig P&L	\$12,610.32	\$9,016.76	\$16,243.41	\$11,632.58	\$330.76	\$6,012.77	-\$77.06	\$7,856.47	\$63,626.02
Novig P&L Per Bet	\$2.02	\$5.29	\$10.47	\$15.27	\$0.58	\$15.54	-\$0.37	\$11.11	\$5.24
# Of Bets vs. ProphetX	1000	628	637	446	317	265	163	316	3772
ProphetX P&L	\$1,091.05	\$7,293.34	\$3,498.76	\$3,668.29	\$1,640.46	\$2,917.32	\$631.77	\$2,102.35	\$22,843.33
ProphetX P&L Per Bet	\$1.09	\$11.61	\$5.49	\$8.22	\$5.17	\$11.01	\$3.88	\$6.65	\$6.06
Total # Of Bets	7241	2334	2189	1208	885	652	371	1023	15903
Total P&L	\$13,701.37	\$16,310.10	\$19,742.17	\$15,300.86	\$1,971.22	\$8,930.09	\$554.71	\$9,958.82	\$86,469.35
P&L Per Bet	\$1.89	\$6.99	\$9.02	\$12.67	\$2.23	\$13.70	\$1.50	\$9.73	\$5.44

For reference we started the correct arb volume incorporated ProphetX odds on line 3961	0.015	0.02	0.025	0.03	0.035	0.04	0.045	Total
	Stats for Minimum Open Arb Volume Threshold of 1500 - Beginning row 3961							
# Of Bets vs. ProphetX	Less than 1.5%	1.5 - 1.99%	2 - 2.49%	2.5 - 2.99%	3 - 3.49%	3.5 - 3.99%	4 - 4.49%	Total
# Wins	738	314	341	228	187	144	93	2300
ProphetX P&L	393	171	192	121	106	81	46	1,257
ProphetX P&L Per Bet	\$1,458.07	\$2,257.23	\$2,913.81	\$523.27	\$2,115.89	\$1,996.14	-\$82.47	\$3,576.03
	\$1.98	\$7.19	\$8.54	\$2.30	\$11.31	\$13.86	-\$0.89	\$14.02
								\$6.42

Performance & Results

- **Add More Leagues & Markets**
 - Expand beyond current leagues to capture more opportunities across lesser-covered events.
- **Integrate More Sportsbooks**
 - Continue onboarding additional books into our in-house scraper for broader coverage and sharper line comparisons.
- **Implement Kelly Criterion**
 - Automate bet sizing using Kelly to optimize long-term bankroll growth and risk-adjusted returns.
- **In-App Bet Sizing**
 - Enable users to tap into alerts and instantly receive the recommended stake based on Kelly output.
- **Boost Algo Speed**
 - Refine parsing and detection logic to reduce latency while maintaining scale and robustness.

Q & A