

# **2869 Guide to Scouting and Strategy**

**By: Miraj Shah and Ankur  
Raghavan**

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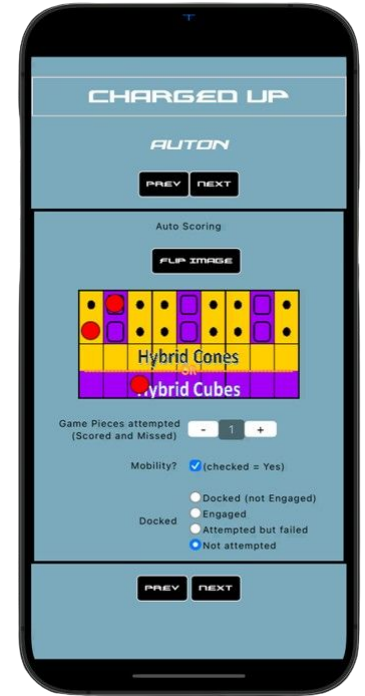
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# Scouting

- One of the most CRUCIAL parts of an FRC competition
- Watching matches to see how robots perform
- Qualitative v.s. Quantitative
- Scouting PASS
  - PWNAGE #2451
  - iPhone/Android App
  - Local Website
  - No Connectivity Required



# Qualitative vs Quantitative

Qualitative	Quantitative
<ul style="list-style-type: none"><li>- Does the robot seem tippy?</li><li>- Will this robot score well with our team?</li><li>- Does this robot cross path with us a lot?</li><li>- Does their team seem competent?</li><li>- Are they eager to talk to us?</li></ul>	<ul style="list-style-type: none"><li>- How many pieces does this team score?</li><li>- High, Mid, Low?</li><li>- How many can they score in autonomous?</li><li>- Are they able to balance quickly?</li></ul>

# Qualitative Scouting

Team Number	Drive Train	Climb Mechanism	Auto

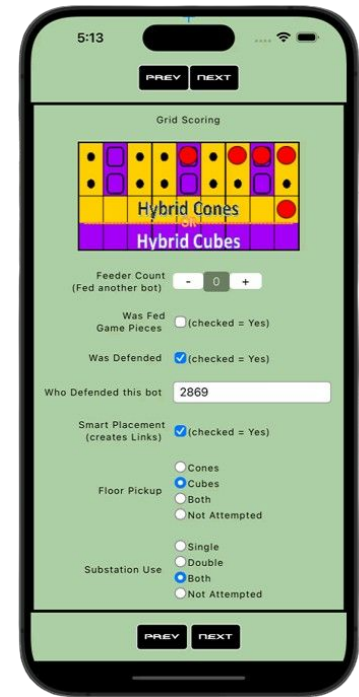
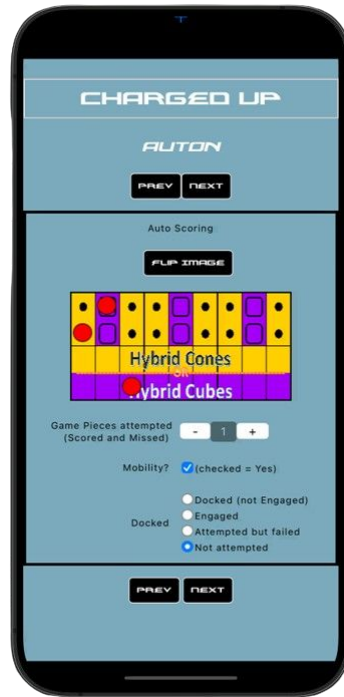
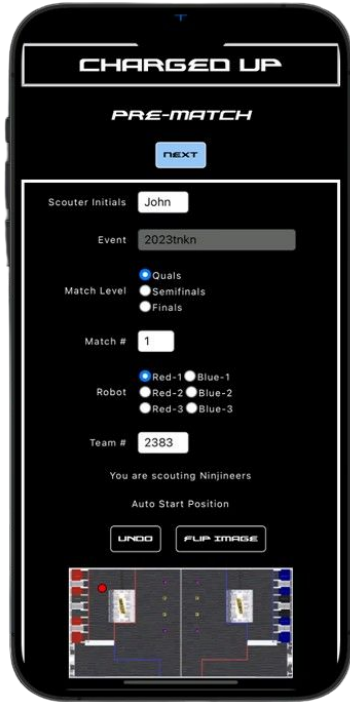
Scouters:

**Team 2869 - The Regal Eagles - Robot Pit Scouting**

Who has photo of robot:

Team #	Team Name			
Mentor Name	Mentor Email			
Captain Name	Captain Email			
Drive Train	Tank	Swerve	West Coast	Other:
Motors				
Top Speed				
Bumper Height	Chassis Height			
Width (in)	Weight (lbs)			
High COG?				
Autonomous Scoring	Cube High # _____		Cone High # _____	
	Cube Mid # _____		Cone Mid # _____	
	Cube Low # _____		Cone Low # _____	
	Auto Balance		Leave Community (Mobility)	
Autonomous Notes:				
Scoring Capabilities	Cube High		Cone High	
	Cube Mid		Cone Mid	
	Cube Low		Cone Low	
	Endgame Balancing		Other:	
Robot Design Notes				

# Quantitative Scouting



# Quantitative Scouting

**CHARGED UP**

*ENDGAME*

**PREV** **NEXT**

Docking Timer

Start  **Reset**

Parked  
 Docked (Not Engaged)  
Final Status  Engaged  
 Attempted but failed  
 Not attempted

Total # of alliance robots docked/engaged  **+** **-**

Links Scored (by alliance)  **+** **-**

**PREV** **NEXT**

5:17

**CHARGED UP**

*MISCELLANEOUS*

**PREV** **NEXT**

Not Effective  
 Average  
 Very Effective  
 Not Observed

Driver Skill

Below Average  
 Average  
 Good  
 Excellent  
 Did not play defense

Defense Rating

1 (slow)  
 2  
 3  
 4  
 5 (fast)

Speed Rating

Died/immobilized  (checked = Yes)

Tippy (almost tipped over)  (checked = Yes)

Dropped Cones (>2)  (checked = Yes)

Make good alliance partner?  (checked = Yes)

Comments

**Done**

**CHARGED UP**

*GENERATE QR CODE*

**PREV**

Event: 2023trkn Match: 1 Robot: Team: 2383



**DISPLAY DATA** **COPY DATA**

**CLIP PAPER**

# Data Collection

- Data is collected through scanning QR Codes
- Excel Macro to easily input scanned data
- Grocery Store Scanner to easily scan the QR Codes





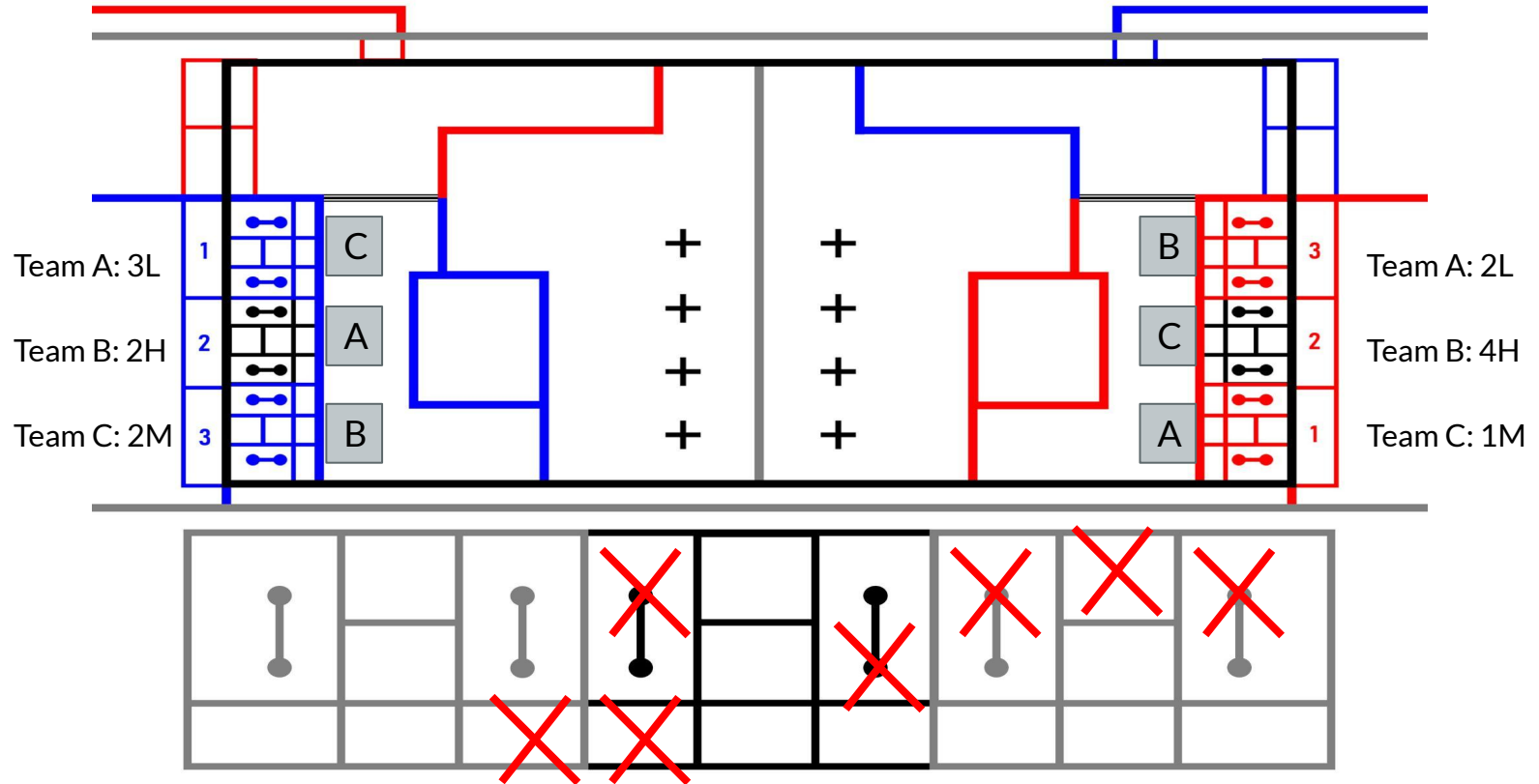
# Available Statistics

- The Blue Alliance
  - COPR (Offensive Power Rating)
  - Total Game Pieces
  - Total Cubes
  - Total Cones
- Statbotics
  - EPA (Expected Points Added)
  - Auto EPA
  - Endgame EPA
  - Teleop EPA

# Using Scouting Data

- Both Qualitative and Quantitative Scouting Data Used
- Whoever scores the most gets the shortest path
- Knowing how each team cycles
- Knowing how many points the other team cycles
- Best autonomous on alliance

# Match Planning!



# Pick Lists - Gathering Information

Organize by Ranking

Rank	Team	Ranking Score
1	694	3.60
2	870	3.20
3	1468	2.90
4	329	2.90
5	5736	2.70
6	3419	2.70
7	2601	2.60
8	7539	2.50
9	8595	2.50
10	6911	2.30
11	5298	2.30
12	806	2.20
13	271	2.20
14	2638	2.10
15	353	2.10
16	871	2.10
17	2872	1.90
18	1796	1.90
19	2869	1.90

Look at OPR and other TBA breakdowns

COPRs (?)

OPR ▾

OPR  
Total Game Piece Count  
Total Game Piece Points  
Foul Count Received  
Foul Points Received  
Total Points Less Fouls  
Total Cones Scored  
Total Cubes Scored  
Auto Game Piece Count  
Auto Mobility Points  
Auto Points  
Auto Docked  
Auto Game Piece Points  
Auto Charge Station Points  
Teleop Game Piece Count  
Teleop Points  
Teleop Game Piece Points  
End Game Charge Station Points

	Team	OPR
	694	60.71
	870	59.83
	1468	56.52
	5736	54.45
	2872	52.42
	7539	46.75
	2601	46.20
	329	45.89
	3419	41.71
	2638	39.11
	527	37.49
	8595	37.23
	2875	36.74
	533	33.13

# Pick Lists - Gathering Information

Look at EPA

Get Scouting Data from Head Scout

EPA
61.5
58.3
51.9
43.4
49.1
37.4
41.4
42
33.2
36.2

autoGamePi	autoCubes	autoCones	autoHigh	autoMed	autoLow	teleopGame	teleopCubes	teleopCones	teleopHigh	teleopMed	teleopLow	totalGamePi	totalCubes	totalCones	totalHigh	totalMed	totalLow
1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	2	1	1	1	1	0	2	1	1	1	1	0
0	0	0	0	0	0	1	1	0	0	1	0	1	1	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	1	0	0	5	2	3	4	0	1	6	2	4	5	0	1
0	0	0	0	0	0	2	0	2	1	0	1	2	0	2	1	0	1
0	0	0	0	0	0	1	1	0	0	1	0	1	1	0	0	1	0
0	0	0	0	0	0	1	0	1	0	0	1	1	0	1	0	0	1
0	0	0	0	0	0	5	2	0	0	0	2	5	2	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	4	0	4	1	2	1	4	0	4	1	2	1
0	0	0	0	0	0	1	1	0	1	0	0	1	1	0	1	0	0
scouter	eventCode	matchLevel	matchNum	match_key	robot	teamNumber	autoStarting	autoSc	autoCrossed	autoCrossed	autoMobility	autoDock	cycleTimes	scoredGrid			
AK	2023nywz	qm	4	2023nywz_qm4	b3	870	52 [40]		1	1	1 x			[]			
AK	2023nywz	qm	3	2023nywz_qm3	b3	9016	39 []		0	0	0 x			[]			
AK	2023nywz	qm	2	2023nywz_qm2	b3	564	51 []		0	0	0 x			[]			
AK	2023nywz	qm	1	2023nywz_qm1	b3	8267	50 []		1	0	1 x			[13,2]			
NS	2023nywz	qm	4	2023nywz_qm4	r1	358	35 []		0	0	0 x			[14]			
TJ	2023nywz	qm	4	2023nywz_qm4	r3	3624	47 []		0	0	0 x			[]			
NP	2023nywz	qm	4	2023nywz_qm4	b3	870	62 [3]		1	1	1 x			[2,4,5,7,20]			
NS	2023nywz	qm	3	2023nywz_qm3	r1	4458	71 []		0	0	0 x			[20,9]			
NP	2023nywz	qm	3	2023nywz_qm3	b3	9016	38 []		0	0	0 x			[14]			
TJ	2023nywz	qm	3	2023nywz_qm3	r3	263	35 []		1	1	0 x			[20]			
NP	2023nywz	qm	2	2023nywz_qm2	b3	564	62 []		0	0	0 x			[35]			
NS	2023nywz	qm	2	2023nywz_qm2	r1	9970	35 []		1	0	1 x			[36,35,37,38,39]			
KK	2023nywz	qm	3	2023nywz_qm3	r3	5099	71 []		1	1	1 x			[]			
NS	2023nywz	qm	1	2023nywz_qm1	r1	5736	47 []		0	0	0 x			[25,15,4,16]			
NP	2023nywz	qm	1	2023nywz_qm1	b3	8267	62 []		0	1	0 x			[2]			
TJ	2023nywz	qm	1	2023nywz_qm1	r3	5099	35 []		1	1	0 x			[]			

# Pick List - Creation

First Pick	Second Pick
2872 - 7 Pieces	271 - 3 Pieces (Strong Drive Train)
3171 - 6 Pieces	263 - 4 Pieces
2601- 5 Pieces	806 - 2 Pieces (Strong Defense)
353- 5 Pieces	527 - 4 Pieces
5736 - 6 Pieces	-

# Contact Information

Instagram: regaleagles\_2869

Twitter: @Robotics\_BHS

TikTok: @theregaleagles2869

Website: <https://team2869.org>

**Team Email:** theregaleagles2869@gmail.com