

Team 581
Blazing Bulldogs



2025 Scouting
Whitepaper

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Team 581 Blazing Bulldogs is proud to release our 2025 Scouting Whitepaper and resource folder. The following document includes a breakdown of our custom scouting app, scouting subteam organization, and links to our scouting and strategy resources.

1 History

Our scouting and strategy subteam was formed in 2023, consisting of 6–8 scouts, 1 match strategist, and a basic web app. We knew that in order to play at a more competitive level, scouting was an essential part of our competition team. Robots win matches, but scouting wins events. We needed to make informed, data-driven alliance picks and optimize both ours and our partners' performance in matches, which is only possible through scouting and strategy. At the time, our custom app only tracked game pieces scored in Auto and Teleop for each match, and robot positioning at the end of each respective period. In 2024, we ran 10–12 Scouts and a much more complex app, allowing us to use our scouting data much more effectively. Ultimately, we were more successful at our competitions in part because of the more sophisticated app and subteam, earning our first Regional win and blue banner in 18 years. Our scouting subteam and app have further grown in 2025, both of which are detailed below.

2 Scouting and Strategy Subteam Roles

Scouting and Strategy is our largest competition subteam. Depending on the event, there are 12–22 students who fill the following roles, and 4–6 coaches providing support throughout. At offseason events, students may rotate into multiple roles given they have completed all required training.

- **Data Scout:** At each event, we have 10–18 Data Scouts whose main role is to fill out our match form, gathering objective data for a team each match. Additionally, Data Scouts take notes on robots' performance in their scouting notebooks. If we play with or against the team we scouted, Data Scouts will comment on their observations in our match threads.
- **Expert Scout:** 2–4 Expert Scouts document specific robot specializations by collecting subjective data in the stands. In each match, they scout Auto routines and rank teams by driver ability. Expert Scouts form watch lists and fine-tune the pick list prior to alliance selection.
- **Pit Scout:** Small groups of 3 trained Pit Scouts each observe teams in the pits before qualification matches start, filling out the Pit Scout form on the scouting app. We use the information to determine any additional resources we can provide our partners and form our pick list.
- **Pitbull:** The Pitbulls, while not a part of the Scouting subteam, are a competition subteam consisting of 2–5 students and 1–3 coaches who ensure our alliance partners are able to play their best in our matches. Assisting with software, hardware, and

electrical, Pitbulls communicate with Scouting and Strategy to pinpoint which robots may need support, then work to implement leave-line Auto routines, legal and robust bumpers, successful climbers, and other features to maximize performance in future matches.

- **Strategy:** 2–4 Strategy students develop match plans with alliance partners, optimizing our alliance's on-field performance in collaboration with Expert and Data Scouts. They communicate the match plan to our Drive Team and collaborate with Pitbulls to identify which teams may need support prior to matches.
- **Pick List Attendees:** Our pick list meeting consists of Scouts, Strategy, Pitbulls, and coaches. All Scouts and Strategy attending the pick list meeting are required to complete a 3-hour training before participating. Pitbulls attend the meeting to provide technical input and support.

3 Scouting App Usage

Our scouting app and data are used by all members of our scouting subteam, and the main uses are listed here:

- Data Scouts pre-scout for competitions and scout live matches using Match Form.
- Pit Scouts use the Pit Scout page to collect pit data from pit crews on Practice Day at competitions.
- Pitbulls use Pitbull Scout to collect robot data from pits on Practice Day at competitions, and Pitbull pages to identify which future alliance partners need help.
- Strategists use data from the Match Strategy page to create match plans.
- Pick List Attendees use Comparison and Data View pages to create and sort pick lists.

4 App Introduction

In order to compete in FRC, having data on other teams' robots that is up-to-date, digestible, and reliable is critical. We customize our app to fit our exact needs when scouting and evaluating data. Doing things digitally allows us to input more accurate and detailed information quickly, enabling instantaneous data analysis, which then allows our team to create smarter match strategies and make more informed alliance selections.

5 Match Form

After kickoff, the scouting subteam discusses what specific data we need to collect for each page as well as any canned comments we may have in our scouting forms. Canned comments are short, pre-written comment options that list common robot actions; for instance, Scouts can track deaths, breakdowns, receiving defense, or playing defense. Multiple comments can be selected at once.

We begin by listing all possible data points for each section and decide what data collection method works best. Then as a group for each data point we discuss if it should be sorted into must have, could have, or won't have for our scouting pages.

2025									
Auto		Teleop		Endgame		Canned Comments		Pit	
Leave	M checkbox	Reef L1 Score	M counter	Park	M checkbox	Deaths	M canned	Batteries #	M
Reef L1 Score	M counter	Reef L2 Score	M counter	Attempt shallow climb	M checkbox	Station intake	M canned	Chargers #	M
Reef L2 Score	M counter	Reef L3 Score	M counter	Successful shallow climb	M checkbox	Ground intake algae	M canned	Drivetrain Type & Motor Type	M
Reef L3 Score	M counter	Reef L4 Score	M counter	Attempt deep climb	M checkbox	Ground intake upright coral	M canned	Leave auto?	M
Reef L4 Score	M counter	Processor Score	M counter	Successful deep climb	M checkbox	Ground intake horizontal coral	M canned	Coding language	M
Processor Score	M counter	Net Score	M counter	Lift partner - shallow	W	Drops pieces	M canned	Robot Photo/robot insides	M
Net Score	M counter	Remove Algae from Reef	M Counter	Lift partner - deep	W	Play Defense	M canned		
Starting position (toggled with field location)	M Clickable regions	Disable	M canned	Lifted by partner - shallow	W	Sustained damage	M canned		
Did Not Move	M canned comment	Reef 1-12	C OPR?	Lifted by partner - deep	W	Didn't show up	M canned		
Cross midline	M canned comment			Climb location	W	Tipped	M canned	Bumper height from ground	C
make contact with opponents	M canned comment					Lots of Fouls	M canned	Drive under shallow cage	C
Remove algae from reef	M canned comment	HP score in net	W			Receive Defense	M canned		
		Remove algae from reef L2	W canned			Hold algae and coral at same	M canned		
		Remove algae from reef L3	W canned			Stuck on game piece	M canned		
						Hits alliance cages	C canned	Frame perimeter WxL	W
						Driver ability	W canned	Weight	W
Auto Expert Scout Page								Pitbulls	
Intake preset algae (and location)	C clickable map								
Intake preset coral (and location)	C clickable map								
Intake from coral station	C clickable map								
Reef Region/Location	C					Intake Algae from Reef			
Remove algae from reef	M canned comment					drives under shallow cage	W canned		
Disabled/A stop	W					Human player location	W canned		
						Removes coral	W canned		
						Intakes presets	W canned		

Our Match Form allows Scouts to record data for practice matches, qualification matches, elimination matches, and pre-scouting. It is broken into 4 sections: Login, Auto, Tele, and QR.

In our Login Page, Scouts are required to input their name, match number, team number, and select what type of match is being scouted. The scout's name and match being scouted is saved. Our app is also able to update the match number each time data is uploaded.


Scouting
Match Data
Pit Scout
Pitbull
Data Analysis
Raw Data
Admin


Login

Scout Name

Match #

Team #

Practice Match? ☐ Elims Match? ☐ Prescouting? ☐

Go!

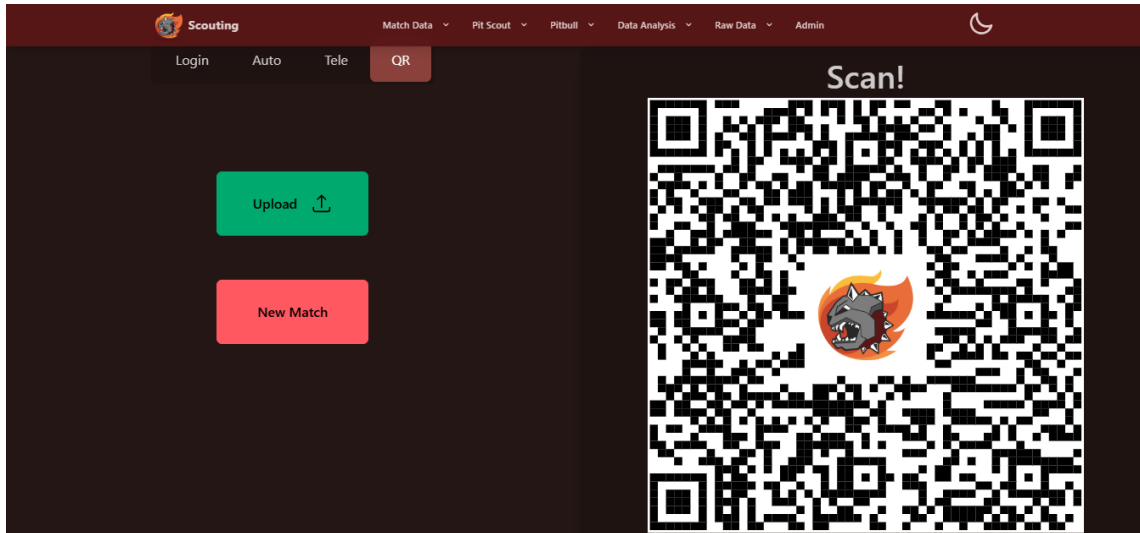
On our Autonomous Page, Scouts record their robot's starting position, determine if the robot left the start line, record how many game pieces were scored on each location, and select any canned comments.

The screenshot shows the Scouting Teleop interface. At the top, there's a navigation bar with 'Match Data', 'Pit Scout', 'Pitbull', 'Data Analysis', 'Raw Data', and 'Admin'. Below this, there are tabs for 'Login', 'Auto', 'Tele', and 'QR'. The main area is titled 'Start Position' and features a vertical line with a red 'C' button. Below this, there's a 'Leave' checkbox and several buttons: 'Auto - Did Not Move', 'Crossed Midline', 'Removed Algae from Reef', 'Crashed into Opponent', 'Crashed into Partner', and 'Out of control'. On the right side, there are counters for 'Coral L4', 'Coral L3', 'Coral L2', 'Coral L1', 'Processor', and 'Net', each with a red minus button, a green plus button, and a '0' in the middle. The background is dark blue.

On our Teleop Page, Scouts record how many game pieces were scored on each available location and how many algae were removed from the reef. There are checkboxes to record if teams attempted a climb, successfully climbed, or parked during Endgame. Scouts can select canned comments and write in additional details.

The screenshot shows the Scouting Teleop interface with the 'Tele' tab selected. On the left, there are counters for 'Coral L4', 'Coral L3', 'Coral L2', 'Coral L1', 'Processor', 'Net', and 'Removed Algae From Reef'. In the center, there are checkboxes for 'Park', 'Shallow Climb Attempt', 'Shallow Climb Success', 'Deep Climb Attempt', and 'Deep Climb Success'. On the right, there's a section titled 'Gets Coral Mostly From' with a 'Select Source' dropdown. Below this, there are buttons for 'Shipped Moving', 'Dead <45 Seconds', 'Dead >45 Seconds', 'Floor Pickup Algae', 'Floor Pickup Coral', 'Holds Both Game Pieces', 'Slow Drive', 'Fast Drive', 'Good Driveline', 'Bad Driveline', 'Drops Game Pieces', 'Lots of Faults', 'Tapped', 'Didn't Move', 'Broken', 'Did Not Show Up', 'DNP', 'Played Defense', 'Received Defense', 'Yellow Card', and 'Red Card'. At the bottom right, there's a 'Comments' section with a text area labeled 'Enter Comments'. The background is dark blue.

Our QR page provides a QR code to submit data during competitions, and an upload button if the device is connected to the Internet. QR codes are scanned through an Internet-connected phone at events because scouting Chromebooks do not have access to Wifi.

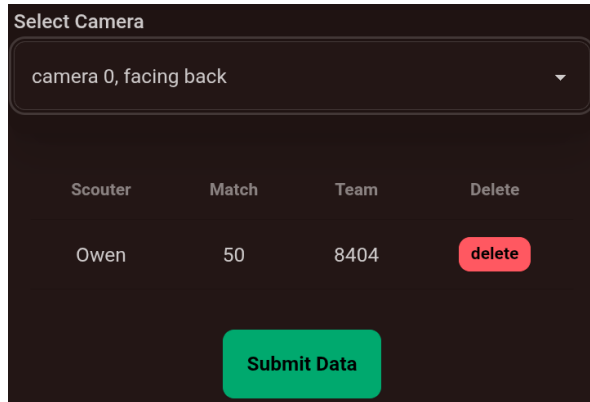


6 Expert Form

The Expert Form is used by a smaller group of Scouts called Expert Scouts. They focus on tracking Auto routines by marking scoring locations in the app and checking off robots that earned leave points. After Auto, the Scouts focus on ranking the overall driving ability of each team on an alliance, which is used later as the initial sort for defensive Picklists.

7 QR Scanner

The QR scanner page is how we input most of our data into the system. At competitions, we do not use wifi to upload data; rather, the QR code is scanned and uploaded on a phone through the QR scanner.

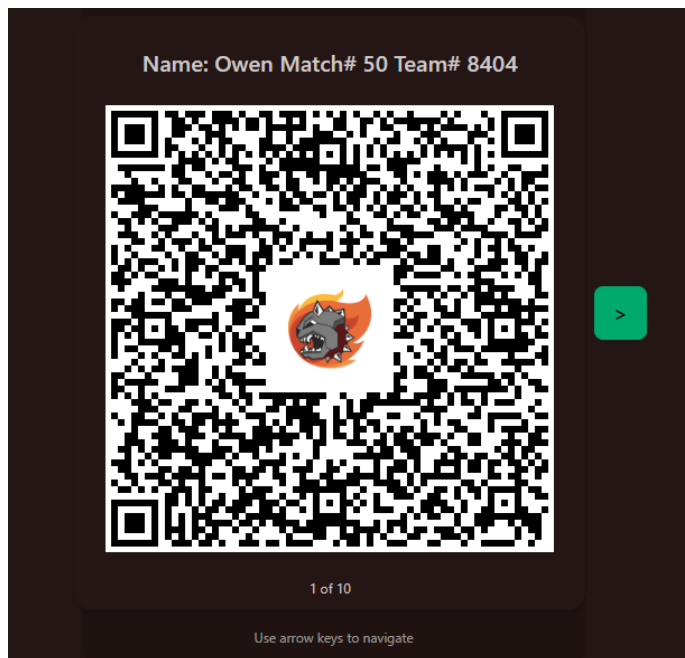


The screenshot shows a mobile application interface for a QR scanner. At the top, there is a label "Select Camera" above a dropdown menu that currently displays "camera 0, facing back". Below this is a table with four columns: "Scouter", "Match", "Team", and "Delete". The table contains one row of data: "Owen", "50", "8404", and a red button labeled "delete". At the bottom of the screen is a large green button labeled "Submit Data".

Scouter	Match	Team	Delete
Owen	50	8404	delete

8 Form History

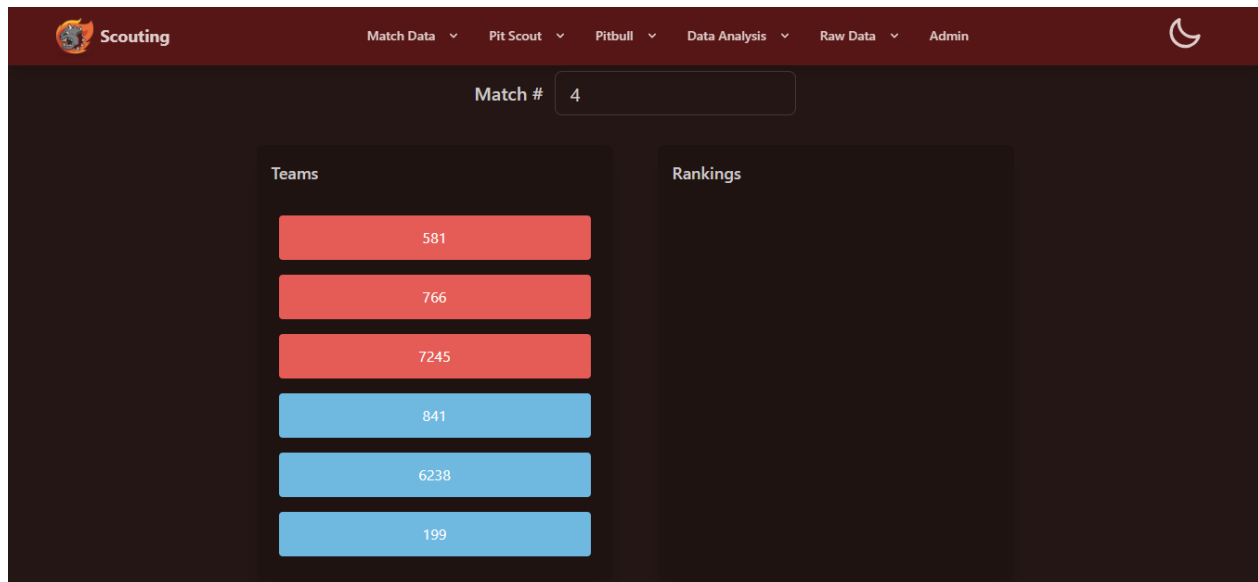
The form history page gives a QR code for matches that were accidentally cleared before being uploaded, so that there are fewer missed matches and data.



The screenshot shows a mobile application interface for a form history page. At the top, it displays the text "Name: Owen Match# 50 Team# 8404". Below this is a large QR code. In the center of the QR code is a circular logo featuring a stylized orange and black flame or dragon head. To the right of the QR code is a green button with a white right-pointing arrow. At the bottom of the screen, it says "1 of 10" and "Use arrow keys to navigate".

9 Rankings Input

The Rankings Input page is part of the Expert Form. In this page, Expert Scouts enter the match number and rank teams for either alliance based on driving ability. This was last used in 2024, before we had an Expert Scout page. We only rank teams that moved for the majority of the match.



The screenshot shows the 'Rankings Input' page in the Scouting application. At the top, there is a navigation bar with the 'Scouting' logo and several menu items: 'Match Data', 'Pit Scout', 'Pitbull', 'Data Analysis', 'Raw Data', and 'Admin'. A 'Match #' input field contains the number '4'. Below this, the page is divided into two main sections: 'Teams' and 'Rankings'. The 'Teams' section displays a list of six teams, each represented by a colored bar with its number: 581 (red), 766 (red), 7245 (red), 841 (blue), 6238 (blue), and 199 (blue). The 'Rankings' section is currently empty.

10 Data Validation

Our Data Validation page allows us to visualize discrepancies in our scouting data by comparing our numbers to match data from The Blue Alliance. This page also allows us to edit match data directly.



The screenshot shows the 'Data Validation' page in the Scouting application. At the top, there is a navigation bar with the 'Scouting' logo and several menu items: 'Match Data', 'Pit Scout', 'Pitbull', 'Data Analysis', 'Raw Data', and 'Admin'. Below the navigation bar, the page title 'Data Validation' is displayed. To the right of the title are two buttons: 'Settings' and 'Refresh'. Below the title, there is a 'Legend' section with three categories: 'Correct' (green), 'Minor Discrepancy' (yellow), and 'Major Discrepancy / Not Scouted' (red). A note below the legend states: 'Hover over cells for details. Click on a cell to edit the scouted data.' To the right of the legend, there is a yellow badge indicating 'Accuracy: 78%'. Below the legend, there is a table with 13 columns: 'Match', 'Alliance', 'Team 1', 'Team 2', 'Team 3', 'T1 Leave', 'T2 Leave', 'T3 Leave', 'Auto Coral', 'Tele Coral', 'Processor', 'T1 Climb', 'T2 Climb', and 'T3 Climb'. The table contains 10 rows of data, each representing a match. The data is color-coded according to the legend: green for correct, yellow for minor discrepancy, and red for major discrepancy or not scouted.

Match	Alliance	Team 1	Team 2	Team 3	T1 Leave	T2 Leave	T3 Leave	Auto Coral	Tele Coral	Processor	T1 Climb	T2 Climb	T3 Climb
1	RED	5940	6506	846	✗	✓	✓	+1	+2	0	✓	✓	✓
1	BLUE	10221	5507	8793	✓	✓	✓	+3	+4	0	✓	✓	✓
2	RED	5924	604	1983	✓	✓	✓	0	+2	0	✓	✓	✓
2	BLUE	9001	6418	4159	✗	✗	✓	0	+1	0	✓	✓	✓
3	RED	9470	6662	6048	✓	✓	✗	0	-18	0	✓	✓	✗
3	BLUE	6962	7419	10059	✓	✓	✓	+1	-1	0	✓	✓	✓
4	RED	684	766	7346	✓	✓	✓	0	-1	0	✓	✓	✓

The screenshot shows the 'Scouting' application interface. At the top, there's a navigation bar with tabs: Match Data, Pit Scout, Pitbull, Data Analysis, Raw Data, and Admin. Below this is a table with columns: Match, Alliance, Team 1, Team 2, Team 3, T1 Level, T2 Level, T3 Level, Auto Coral, Tele Coral, Processor, T1 Climb, T2 Climb, and T3 Climb. The table contains 24 rows of match data. A modal titled 'Edit Data for Team 581 in Match 4' is open, showing a dropdown for 'Team 581' and input fields for 'Tele Coral' levels 1 through 4. The modal also has 'Cancel' and 'Save' buttons.

Match	Alliance	Team 1	Team 2	Team 3	T1 Level	T2 Level	T3 Level	Auto Coral	Tele Coral	Processor	T1 Climb	T2 Climb	T3 Climb
1	RED	5940	6506	846						0	✓	✓	✓
1	BLUE	10221	5507	8793						0	✓	✓	✓
2	RED	5924	604	1983						0	✓	✓	✓
2	BLUE	9001	6418	4159						0	✓	✓	✓
3	RED	9470	6662	6048						0	✓	✓	✓
3	BLUE	6962	7419	10059						0	✓	✓	✓
4	RED	581	766	7245						0	✓	✓	✓
4	BLUE	841	6238	199						0	✓	✓	✓
5	RED	115	2854	7667						0	✓	✓	✓
5	BLUE	7668	2813	5940						0	✓	✓	✓
6	RED	6662	6506	5507	✓		✓	0	0	0	✓	✓	✓
6	BLUE	766	604	6418	✓	✓	✓	0	0	0	✓	✓	✓

11 Pit Scout

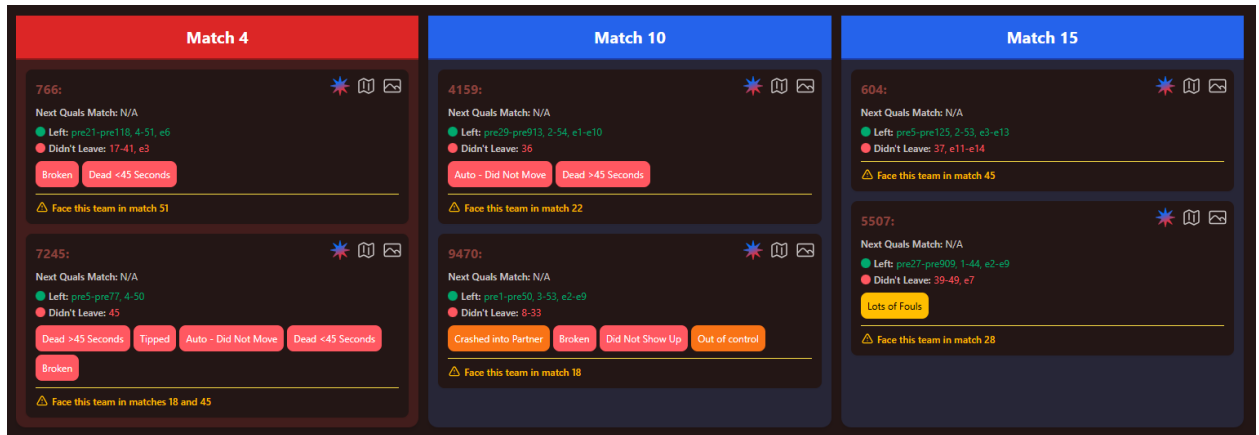
Trained Pit Scouts visit each pit at our events and complete our pit scouting form, which gathers information about teams, such as how many batteries they have, their drive train, and coding language, as well as a photo upload page. If students are unsure of what has been completed, they can refer to our pit check page.

12 Pitbulls

- **Pitbull Scout:** The Pitbull Scout page is used to rate every robot at an event in reliability categories 1-4, as well as other important information about each robot.

The screenshot shows the 'Pitbull Scout' form. It includes fields for 'Team Number', 'Vibe Check' (1 - Bad vibes), 'Bumper Check' (1 - Missing or totally broken), 'Mechanical Robustness' (1 - Critical issues), 'Electrical Robustness' (1 - Critical issues), 'Can Remove Algae?' (No), and 'Archetype' (Other). There is also a 'Submit Data' button and a 'Other Comments' section.

- **Pitbull View:** This page is used to give Pitbulls a preview of the upcoming matches so they know who to prioritize and what areas they may need support in.



- **Pit Map and Pit Map Builder:** These pages contain the pit map so Pitbulls have directions with them at all times, and they can reference the map without exiting the scouting app. The map also includes relevant information about each team, like which matches we play with them.

Scouting										
Pit Map										
	A	B	C	D	E	F	G	H	I	J
1		9496				4499 Against: 32		2046 Against: 7	972 Against: 65	
2		9450 With: 7	8048 With: 7		5940	4270 With: 38 Against: 59		694 With: 45	971 With: 2 Against: 68	
3		9442 With: 45 Against: 33	8033 With: 18 Against: 32		5468 With: 23 Against: 38	3501 With: 2 Against: 51		1678 Against: 2	846 With: 32 Against: 7	
4		9408 With: 55 Against: 2	7157 With: 55 Against: 66		5419	2910 With: 15 Against: 23		1671 Against: 15	841 Against: 32	
5		9084 Against: 38, 51	6238 Against: 15		5026 With: 51 Against: 16	2813 With: 59 Against: 48		1197 With: 23 Against: 18	604 Against: 2, 61	
6		8793 With: 7	6036 With: 15		4738	2073 With: 32		973	581	
7										
8										
9										
10		254 Against: 33	294 With: 51 Against: 33	3045 With: 55 Against: 18	3478 Against: 59		3663 Against: 7		4414 Against: 65	5507 With: 55

Sign out or switch teams

- **Technical Photo Upload:** This is where Pitbulls upload technical photos separate from the main photos, so they can remember what the technical parts of each robot look like.

13 Data Analysis

- **Aggregate:** The Aggregate page organizes all of our raw data into a table so we can sort by specific columns, and it can be copied and pasted directly into our pick list spreadsheet. There are 26 data points listed on the page. This was mainly used before the sort page was developed.

#	Team Num	Avg Tele Pts	Max Tele Pts	Avg Pts	Max Pts	Avg Auto Pts	Max Auto Pts	Avg Tele Pts	Max Tele Pts	Avg Tele Coral	Avg Tele Proc	Avg Tele Net	Avg Tele Rem	Time L1	Time L2	Time L3	Time L4	Time Proc	Time Net	Deep Att %	Deep Hit %	Pitbull	Leave %	Floor Coral %	Floor Algae %	Dead >45	All Dead
1	10055	0	0	5	5	0	0	0	0	0	0	0	0							0%	0%	0	100%	0%	0%	0	0
2	10059	2.9	7	7.1	14	0.1	1	0.8	2	0.8	0	0	0.1							0%	0%	10	90%	0%	0%	0	0
3	10221	24.2	57	27.8	60	0.2	3	4.3	10	4.3	0	0	0.3	22	18.3	29.2				6.7%	0%	8	86.7%	0%	0%	0	0
4	115	42.7	84	52.2	89	0.5	1	6.8	12	6.8	0	0	0.2	4.5	23.6	14.5				21.4%	66.7%	15	100%	0%	0%	1	1
5	1983	42.9	77	47.5	82	0.4	1	7.2	12	7.2	0	0	0.5	20.9	16.3	22.5	13			0%	0%	14	53.3%	0%	0%	0	0
6	199	10.3	24	15	29	0.2	1	2	5	2	0	0	0.5	56.9	25.2					0%	0%	13	91.7%	0%	0%	1	3
7	2813	30.9	60	44.7	83	1	2	6.5	13	6.5	0	0	2.2	20.9	15.4	14.6				60%	100%	13	80%	13%	0%	0	2
8	2854	11.8	38	15.9	41	0	0	1.9	6	1.8	0	0.1	0.5				36.6			37.5%	33.3%	11	68.8%	0%	0%	0	0
9	4159	43.1	74	54.2	84	1.1	2	7.3	12	7.2	0.2	0	0.5	18.7	15	12.2				0%	0%	13	92.3%	0%	0%	1	1
10	5507	46.5	84	72.4	113	2.5	4	8.4	13	8.4	0	0	1.9	19.9	26.1	17.9	6.3			71.4%	70%	13	78.6%	0%	0%	0	0
11	581	85.8	104	116.3	137	2.7	4	17.5	21	14.3	0	3.3	2.7	10.2	3.7	6.1	10.1	9		93.3%	100%	16	100%	73%	7%	0	0
12	5924	21.5	69	32	88	1.1	2	3.6	11	3.6	0	0	0	29.6		0	26.7			35.3%	0%	16	88.2%	0%	0%	1	3
13	5940	87.7	114	122.2	143	3.2	4	18.2	24	16.1	0	2.2	2.7	0	14.6	5.3	8.7	4		84.6%	90.9%	16	76.9%	69%	31%	0	0
14	604	76.6	103	107.1	146	3.1	4	15.3	21	13.5	0	1.8	1.9	6.5	5	12	6.5	12.8		62.5%	70%	16	81.3%	0%	6%	0	0
15	6236	14	20	36.5	46	1.5	2	4.5	7	0	2	2.5	3							100%	100%	0	100%	50%	0%	0	0
16	6238	17.8	36	36.8	58	1.6	4	4.5	9	0	0	4.5	2.7					23.9		72.7%	100%	13	81.8%	9%	18%	0	0

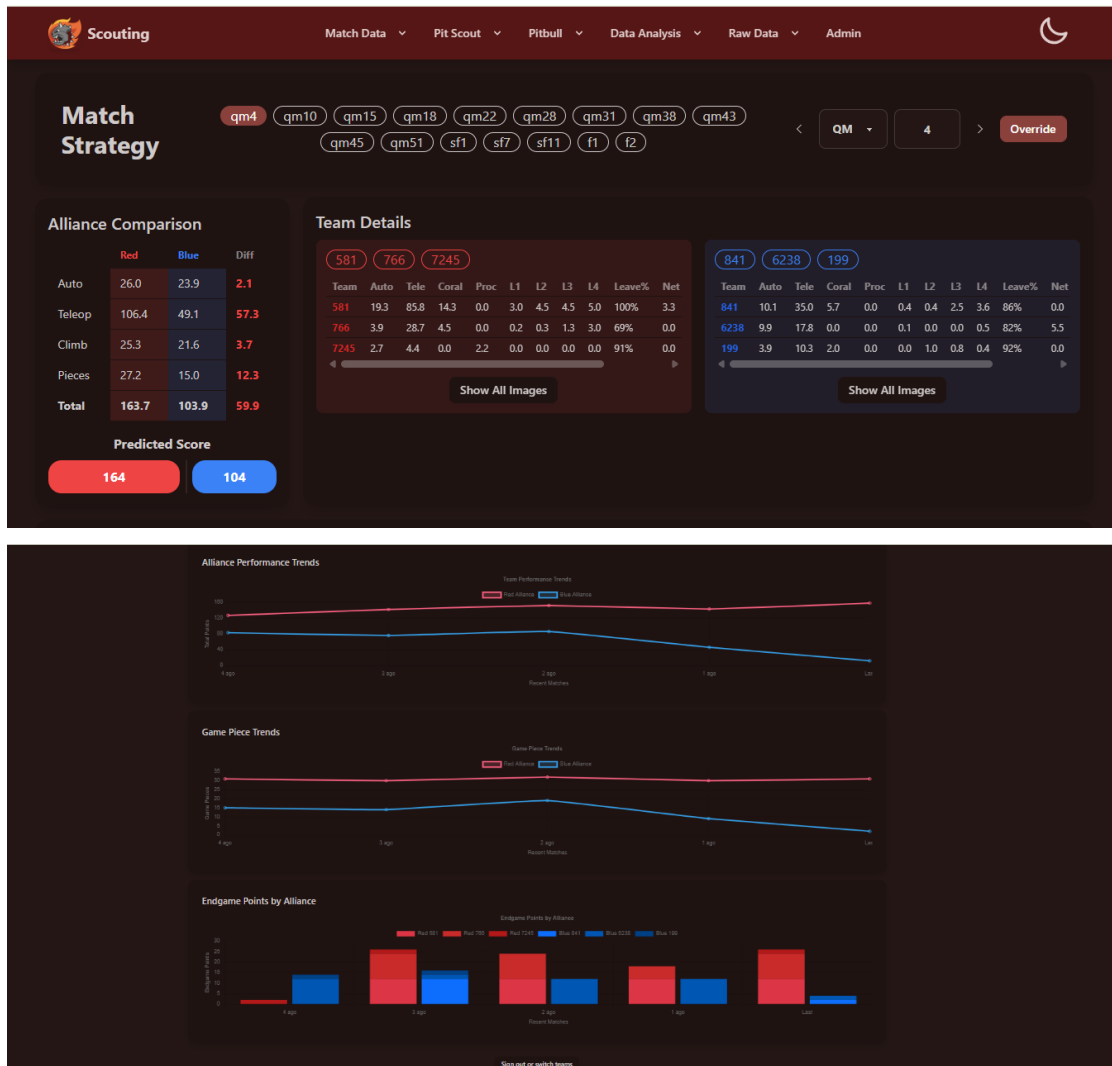
- **Sort:** The Sort page displays our data similarly to the aggregate page, but it is color-coded and more interactive; the columns can be reordered, and clicking on a team takes you directly to their page, while hovering over their name gives a snapshot of their data.

#	Team	Avg Tele Pts	Max Tele Pts	Avg Pts	Max Pts	Avg Auto Pts	Max Auto Pts	Avg Tele Pts	Max Tele Pts	Avg Tele Coral	Avg Tele Proc	Avg Tele Net	Avg Tele Rem	Time L1	Time L2	Time L3	Time L4
1	5940	87.7	114	122.2	143	3.2	4	18.2	24	16.1	0	2.2	2.7	0	14.6	5.3	
2	581	85.8	104	116.3	137	2.7	4	17.5	21	14.3	0	3.3	2.7	10.2	3.7	6.1	
3	604	76.6	103	107.1	146	3.1	4	15.3	21	13.5	0	1.8	1.9	6.5	5	12	
4	9999	82.7	112	98.9	125	1.9	3	14.2	18	14.2	0	0	0	14.1	8.3	9.4	
5	846	57.6	85	81.6	114	1.9	3	10.1	16	7.6	0	2.5	2.9		0.9	15.8	
6	5507	46.5	84	72.4	113	2.5	4	8.4	13	8.4	0	0	1.9	19.9	26.1	17.9	
7	6418	46.9	68	68.5	97	1.8	3	8	12	7.9	0	0.1	2.1		11.6	15.5	
8	6962	42.1	82	54.4	92	1.3	2	7.6	15	6.7	0	0.9	2.2		5.5	11.5	
9	7419	39.3	95	54.2	102	1.8	3	6.5	14	6.4	0	0.1	1.9	51.9	17.4	11.1	
10	4159	43.1	74	54.2	84	1.1	2	7.3	12	7.2	0.2	0	0.5		18.7	15	
11	115	42.7	84	52.2	89	0.5	1	6.8	12	6.8	0	0	0.2		4.5	23.6	
12	841	35	61	52.1	90	1.1	2	5.7	10	5.7	0	0	0.3			23.9	
13	1983	42.9	77	47.5	82	0.4	1	7.2	12	7.2	0	0	0.5	20.9	16.3	22.5	
14	6416	30	30	47	47	2	2	5	5	5	0	0	3				
15	2813	30.9	60	44.7	83	1	2	6.5	13	6.5	0	0	2.2	20.9	15.4	14.6	
16	9001	34.1	71	42.1	74	0.7	2	6.9	13	6.7	0	0.2	1.2	6.1	6.2	20	
17	765	28.7	58	39.2	73	0.3	1	4.5	9	4.5	0	0	1.2			17.8	Export CSV

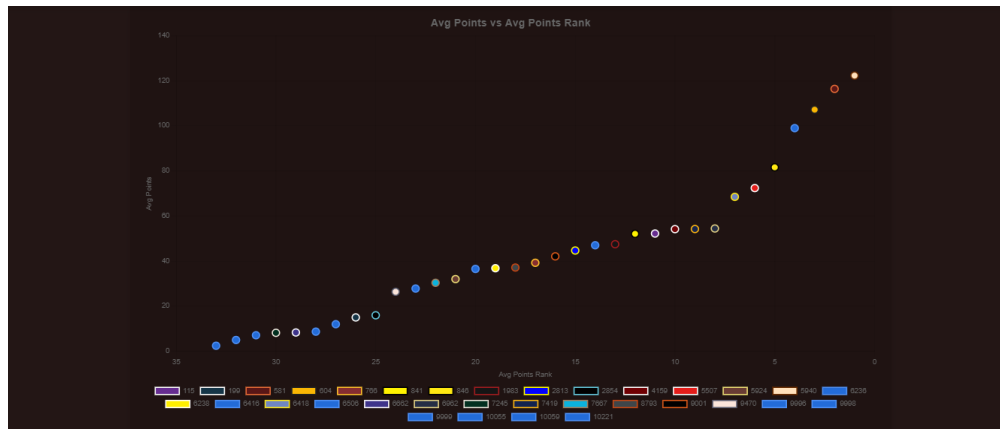
- **Team Data:** The Team Data page is used to view data on a single team via graphs and digestible tables, as opposed to only the number-based data in Sort and Aggregate. It includes the Data Scouts' comments from specific matches for more detailed observations of teams. Most notably, the bar charts include full breakdowns of all game pieces scored in each match the team has played, divided into Auto and Teleop. This is a critical tool in pick list meetings, allowing us to identify game piece trends, averages and maximums in Auto and Teleop, & canned comments. Pick list attendees review the match data, then rewatch specific matches where a team scored maximums, minimums, or other notable behavior that should be reviewed. Watching match footage helps pick list attendees determine how teams differ, their style of play, and their strengths. Team Data also includes comments and ratings from our Pit Scouts and Pitbull Scouts, which help us during pick list meetings to identify which robots are the most mechanically and electrically sound.



- **Match Strategy:** Our Match Strategy page predicts the outcome of our matches by combining the average Auto, Teleop, and Endgame points scored by an alliance. It includes alliance performance trends, images of each robot, and a list of each match we play in.



- **Graph View:** In our Graph View page, we are able to compare all teams in a graph. The default graph ranks teams based on average points, but the axes can be customized to any of the data points we have collected. There are over 50 data points to choose from.



- **Comparison:** In the Comparison page, we can compare two or more teams in a side-by-side comparison using our match data. There are four graphs to visually compare both teams. This page is very useful when sorting similar teams on our pick list.



14 Pre Scouting

When data is available before an event, a group of 10-15 Data Scouts pre-scout all teams that will be in attendance. Every Scout who has completed the data scouting training is able to claim a group of 3 teams. They scout 6 qualification matches and 3 eliminations from each team's most recent event. As Scouts finish scouting a group, they claim the next until all teams have been completed. This is done not only for practice, but as a way to give students a better understanding of the robots that we will compete with at the event. To encourage Scouts, they win a pizza party for the whole team if pre-scouting is fully completed before the event!

-  [PUBLIC] 2025 Chezy Champs Pre Scouting

15 Data Scouting Training

To prepare our Data Scouts for competition, we host a required three-hour training to explain the game and how the app works, as well as other aspects of how our team scouts, including scheduling and other critical information. This is required for both new and returning Scouts once per year. As part of the training, members practice scouting teams together and going step by step on each game piece a robot scored to make sure everyone understands, before moving to independent scouting practice.

-  [PUBLIC] 2025 Data & Pit Scouting Training
-  [PUBLIC] 2025 Training & Pre Scouting

16 Pick List Training

At our pick list training prior to each competition, we determine our desired alliance composition, keeping everyone on the same page about our must-have, could-have, and won't-have partner attributes. Our pick list training details how to sort teams via "buckets" and "bubble sorting." We also review what we do if we get picked, what changes in our overall strategy if we are on a lower seeded alliance, and when and how to decline if needed. We review match videos where alliances demonstrate the primary alliance strategies we would like to use in the elimination tournament. As part of the training, students use pre-scouting data to create a pre-event pick list. They are able to practice sorting teams by watching match videos, reviewing data, and discussing the results.

-  [PUBLIC] 2025 Regionals Pick List Training
-  [PUBLIC] Pre-Pinnacles EPAs

17 Strategy Training

To prepare our match strategists for competition, student strategists undergo a required strategy training that teaches match drafting, communication with alliance partners, and further explanation and review of the year's game. The training includes match drafting practice using prescouting data so that new strategists can learn the full process of planning a match. This offseason, new and returning students participated in strategy training for Chezy Champs, including both full-time strategists and students interested in rotational shifts.

-  [PUBLIC] 20250920 Chezy Strategy Training

18 Additional Documentation

- Scouting Checklists:

Like our other competition subteams, we create a series of checklists to ensure our subteam completes all needed tasks at competitions. Creating checklists also allows our leaders and coaches to hand well-defined jobs to less experienced team members.

-  [PUBLIC] Scouting Checklist - Per Day

- Strategy Checklist:

Match Strategists may refer to a checklist prior to each match to review the drafting process. Following the checklist ensures that strategy communicates the plan to and receives input from all parts of the subteam.

-  [PUBLIC] 2025 Pre-Match Strategy Checklist

- Scouting Refreshers:

After all team members have completed our 3 hour data scouting training, we do less extensive training, called “Refreshers” prior to the Championship and every offseason competition. These cover a wide range of items like changes to the game due to level of play or rules, changes to the scouting system, and items we determine need “Extra Focus”.

-  [PUBLIC] 2025 Champs Scouting Refresher

- Year-Round Training & Activities:

On 581, Scouting & Strategy is a year-round subteam, and is very active outside of competitions. We provide structured projects and activities that promote learning & engagement, but are also meant to be fun. These include things like The Blue Alliance Scavenger Hunt, Bracket Challenges, Fantasy FIRST Drafts, Tell Me About A Team presentations, playbooks, and the Player Profile activity, which can all be referenced below:

-  [PUBLIC] 581 Bracket Challenge
 - This is way quicker and much less leg work than a full fantasy draft is, so we tend to get more student engagement in these than the drafts.
-  [PUBLIC] 581 Scouting Pathway Training 2024 - IRI Fantasy FIRST
-  [PUBLIC] 20230620 581 Scouting Pathway Training
-  [PUBLIC] 20230708 581 Scouting Pathway Training
 - Additional Tell Me About A Team Examples:
 -  [PUBLIC] Tell Me About A Team: 254
 -  [PUBLIC] Tell Me About a Team: 5940
 -  [PUBLIC] Tell Me About a Team: 114

- **In-Season Scouting Meetings**

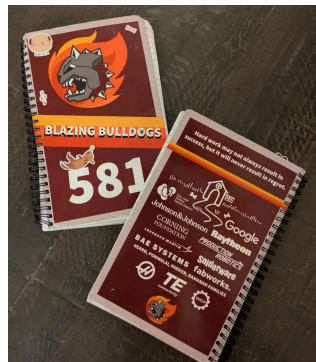
These are the slides from our first scouting & strategy meeting following the 2025 Kickoff. Scouting & Strategy do not meet until a week or two after Kickoff to discuss our scouting system to allow the “dust to settle” from Kickoff and to allow time to review public content that may contribute to our decision making and understanding of the game. After this first meeting, our scouting team meets weekly online for an hour or so. 581 is relatively small and very limited on in-person time, so we opt to have these meetings online to use in-shop time for physical practice field & robot work.

📄 [PUBLIC] 20250116 Scouting & Strategy Meeting

19 Scouting & Strategy Team Health

This is a list of a few of the ways we promote a healthy and happy environment for Scouting & Strategy on our team. Most of these items can be implemented on most teams.

- Clear and consistent communication of expectations, outcomes, and schedules
- All behaviors & expectations also modeled by coaches
- Pizza Parties for the entire team for 100% completed Pre Scouting
- Custom 581 Notebooks for Scouting & Strategy Only
 - 📄 [PUBLIC] Notebook Cover
 - 5.5"x8.5" College Ruled Notebooks from [Vistaprint](#)
 - Vistaprint often has \$50 off or other large discounts every month or so!!



- Dog Stickers for customizing notebooks
- Qualls-Day afternoon Candy Salad
- Small “Snack Tote” kept in the stands with variety of snacks
- Competition goals related to scouting accuracy
 - We also use actual metrics as often as possible to clearly demonstrate scouting & strategy impact on competition outcomes for the whole team
- [Batteries](#) in stands for charging devices



- Pick List Meeting is only for scouts, strategists, and limited Pitbulls representatives to answer and document specific questions only.
 - Dinner always provided at in-person Pick List Meetings
- Scouts are allowed to do whatever they want in the stands between matches (read, play phone games, etc), as long as they are always ready to scout prior to the match beginning
- Cushioned bleacher seats with back rests and cup holders for all on-shift scouts