Table of Contents for Software Tools

Table of Contents with links for all the software tools we use to code robots here at Yeti!

Git - A version control system widely used in the industry and on our team that helps track code changes, manage branches, and collaboration with the team.

Github - Online platform for hosting Git repositories, allows for code sharing, pull requests, and team collaboration. This is where we have all of our code stored, viewable publicly.

WPILib - The official library used by us and all other FRC Teams to code robot subsystems, motors, sensors, and much more. Should answer a good amount of questions you have, or at least lead you to somewhere where you can find an answer!

Phoenix 6 - CTRE's Motor Controller Library that allows us to configure and support devices such as TalonFX. Also really helpful and can answer a lot of the questions you have regarding Motor Control.

Phoenix Tuner - CTRE's application that allows you to configure, test, and update CTRE CAN devices like Talons. Helpful documentation regarding tuning as well.

PhotonVision - An open-source vision system that detects AprilTags and other such objects and sends pose data to the robot. Helpful documentation regarding vision related questions.

Limelight - Another vision system that detects AprilTags and other such objects, similar to PhotonVision. Helpful documentation regarding vision related questions.

AdvantageKit - A logging framework that records all robot data and actions. We plan to experiment with this as a team this season, so it has very helpful documentation!

AdvantageScope - A visual dashboard that reads logs from AdvantageKit and displays field position, sensor data, and timelines in real time or replay. This is also something we use a lot as a team!

Localization - The process used to calculate the robot's position on the field using data from encoders and vision inputs like AprilTags.

Driverstation - FIRST’s official software that we use to control the robot during matches, viewing system status, and switching between robot modes.

Simulation - A WPILib feature that allows teams to test robot code on a virtual field without needing a real robot.

Path Planner - A path generation tool that lets teams design and follow autonomous paths, especially for swerve and tank drivetrains. We use this as a team to generate autonomous paths!

Choreo - Another path generation tool that lets team design and follow autonomous paths. We are looking into Choreo this off-season, and comparing it with Path Planner to see which one is better for our team to use!

Elastic and **Elastic Documentation** - A customizable FRC dashboard that connects to NetworkTables for live monitoring and debugging. This is the type of FRC Dashboard we use at YETI!

Network Tables - A public-subscribe messaging system that is used to communicate/send data between the robot, driver station, and other such things.

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