

Team Titanium Robotics Presents A Skill Builder for LabVIEW

When: December 2nd from 9:00 am to 4:00 pm

Where: Lee's Summit West High School – RM 1204

Who: Open to 2 potential programmers and a mentor from any team. No Programming Experience Required. (We will provide you with training materials to help you teach the rest of your team.)

What:

1. Overview of the robot stock code, and simple modifications.
2. Using global variables to write the autonomous.
3. Creating sub-vi's (like a simple toggle)
4. Sensor filtering (Both moving averages and sorting an array to throw out the extremes before averaging)
5. Slew rate filters to limit changes in acceleration (softer starts prolong the life of gearboxes, and help prevent brownouts).
6. State machine structure, including how to pause an automated routine and then either restart it or pick up where you left off.
7. Using a .csv file on the driver's station to control variables so you can tweak the code without having to redeploy.
8. Incorporating NI's vision into a custom dashboard. (While we recognize that there are more efficient ways to process vision, we've found processing on the driver's station to be more than sufficient to accomplish the game objectives, and is an easy entry point for new teams working with vision.)

Please RSVP to aaron.bailey@lsr7.net
to reserve a spot. Space is limited.

Preparation: We will have desktop computers available with LabVIEW already installed. You are welcome to bring your own laptop if you prefer.

It would be advantageous to bring a robot with a roboRIO control system and a long USB or Ethernet cable.

Bring a sack lunch.

(Or send a mentor out to pick something up.)

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