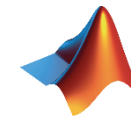
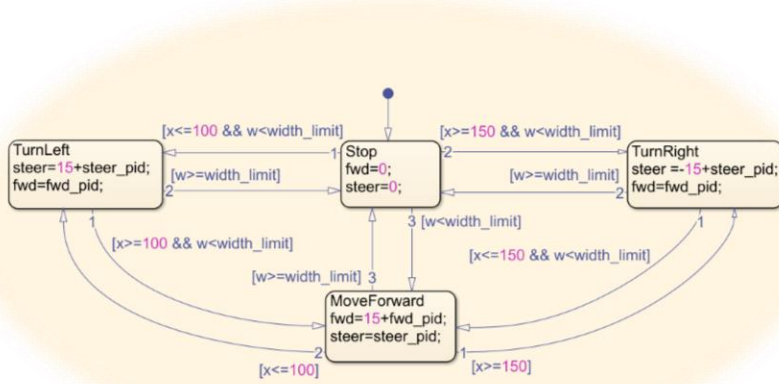


Why use MATLAB and Simulink for VEX Robotics?

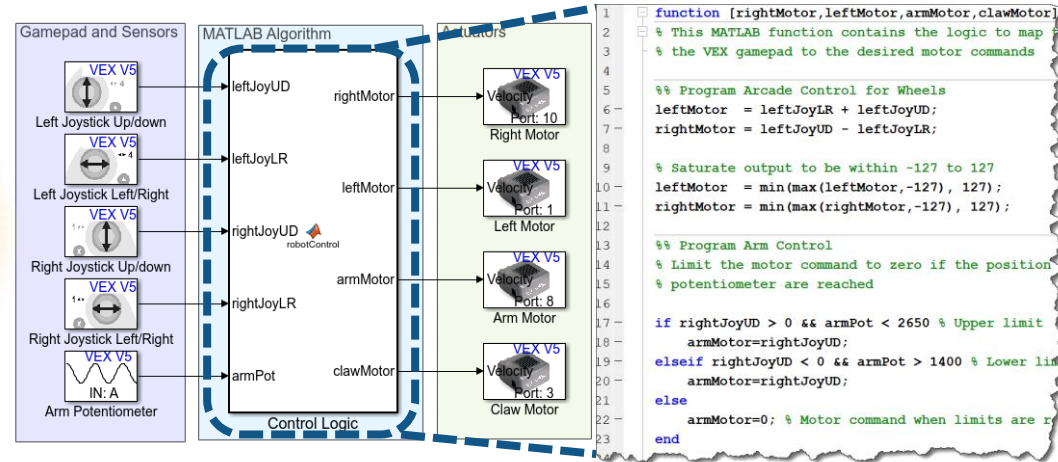
mathworks.com/vex-guide



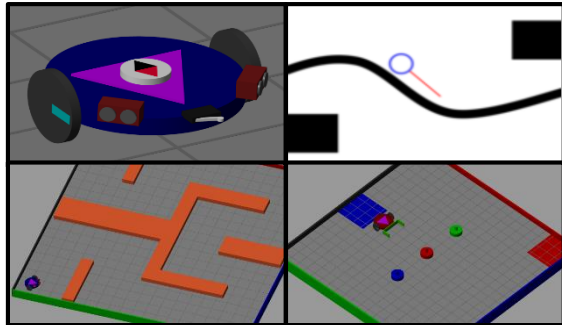
Flow Charts



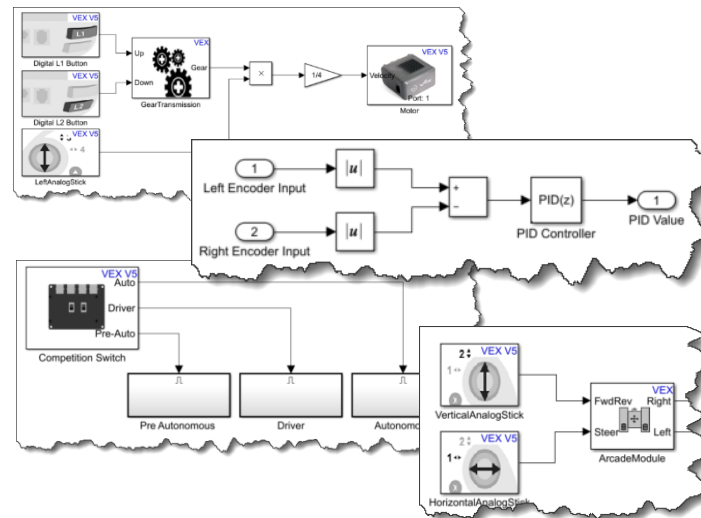
Graphical and Textual Programming



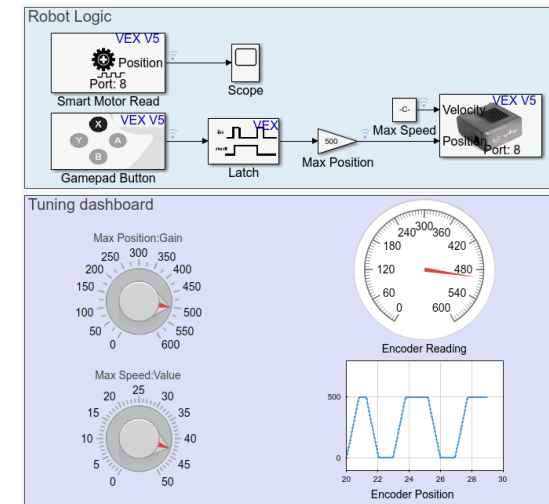
Simulations



Hardware and Control Libraries



Parameter Tuning and Visualization



MATLAB and Simulink VEX Support available for **Windows** and **MAC**

MATLAB and Simulink VEX Getting Started Guide

mathworks.com/vex-guide



Computer Setup


1. [Request Free License](#)
2. Install:
 - [MATLAB and Simulink](#)
 - [VEX EDR Libraries](#)
 - [VEX Companion App*](#)

Software Ramp Up

1. [Intro to MATLAB](#)
2. [Intro to Simulink](#)
3. [Intro to Stateflow](#)


Robot Programming

Simulations



- 1. Autonomous Robot Motion
- 2. PID Controllers
- 3. Line Following Robots
- 4. Obstacle Detection
- 5. Path Navigation

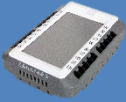
Robotics Playground



- 1. MATLAB Programming
- 2. Autonomous Robot Motion
- 3. Simulink Modeling
- 4. Driver Controls
- 5. Distance Sensors
- 6. MATLAB Functions
- 7. State Machines
- 8. Maze Solving Robots

Hardware

VEX Curriculum



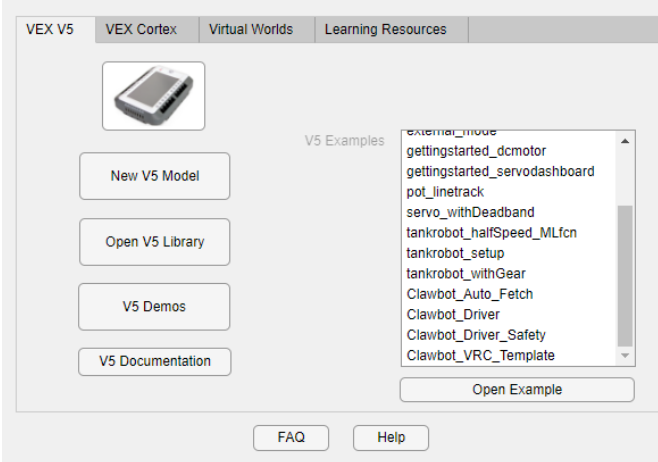
- 1. Autonomous Robot Motion
- 2. VEX Competition Template
- 3. Encoder Navigation
- 4. Distance Sensors
- 5. PID Controllers

Additional Resources

- [Get Started with VEX EDR V5 support for MATLAB and Simulink](#)
- [Program VEX EDR V5 Smart Motors](#)
- [Robot Autonomy and Control Webinar](#)

[Documentation](#) [Facebook](#)

*VEX Companion



The screenshot shows the VEX Companion app interface. It has tabs for 'VEX V5', 'VEX Cortex', 'Virtual Worlds', and 'Learning Resources'. Under 'VEX V5', there are buttons for 'New V5 Model', 'Open V5 Library', 'V5 Demos', and 'V5 Documentation'. A 'V5 Examples' list is visible, containing items like 'external_mode', 'gettingstarted_dcmotor', 'gettingstarted_servodashboard', 'pot_linetrack', 'servo_withDeadband', 'tankrobot_halfSpeed_MLfcn', 'tankrobot_setup', 'tankrobot_withGear', 'Clawbot_Auto_Fetch', 'Clawbot_Driver', 'Clawbot_Driver_Safety', and 'Clawbot_VRC_Template'. There is an 'Open Example' button at the bottom of the list.

Questions?

passcompetitions@mathworks.com