



## SparkFun JetBot AI Kit Powered by NVIDIA Jetson Nano

KIT-15365

The SparkFun JetBot AI Kit is a robot platform powered by the Jetson Nano Developer Kit by NVIDIA. This SparkFun kit is based on the open-source NVIDIA JetBot! We understand that not everyone has access to multiple 3D printers on each floor, and a whole warehouse of electronics so we wanted to build a kit from ready to assemble parts to get you up and running as quickly as possible. The SparkFun JetBot AI Kit is a great launchpad for creating entirely new AI projects for makers, students and enthusiasts who are interested in learning AI and building fun applications. It's straightforward to set up and use and is compatible with many popular accessories. Several interactive tutorials show you how to harness the power of AI to teach the SparkFun JetBot to follow objects, avoid collisions and more. The Jetson Nano Developer Kit offers useful tools like the Jetson GPIO Python library, and is compatible with common sensors and peripherals; including some new python compatability with the SparkFun Qwiic ecosystem.

Additionally, many popular AI frameworks like TensorFlow, PyTorch, Caffe, and MXNet are supported, and Jetson Nano is capable of running multiple neural networks in parallel to process data and drive action. Please be aware that the ability to run multiple neural networks in parallel may only be possible with a full 5V-4A power supply.

This kit includes everything you need to get started with JetBot minus a Phillips head screwdriver, a basic soldering setup, and an Ubuntu desktop GUI. If you need these, check out the includes tabs for some suggestions from our catalog.

**Important:** The SparkFun JetBot AI Robotics Kit is available for pre-order. We expect to have physical stock ready to ship within the next month. Please be aware that appearance of the kit may change.

## • INCLUDES

- NVIDIA Jetson Nano Developer Kit
- 64GB MicroSD card - Pre-flashed with JetBot image
- Leopard Imaging 145FOV wide angle camera & ribbon cable
- EDIMAX WiFi Adapter
- SparkFun Serial Controlled Motor Driver
- SparkFun Micro OLED Breakout (Qwiic)
- All hardware & prototyping electronics needed to complete your fully functional robot!
- Note - some soldering & a Phillips head screwdriver is required for assembly

### **Items not Included but you will need:**

- USB keyboard and mouse
- Computer display (either HDMI or DP) & connector cable

## • FEATURES

- SparkFun Qwiic ecosystem for I2C communication from Jetson Nano Dev Kit
- Ecosystem can be expanded using 4x Qwiic connectors on GPIO header
- Example Code for: Basic Motion, Teleoperation, Collision avoidance, & Object Following
- Compact form factor to optimize existing neural net from NVIDIA
- 145° FOV camera for machine vision
- Pre-flashed microSD card
- Chassis assembly offers expandable architecture