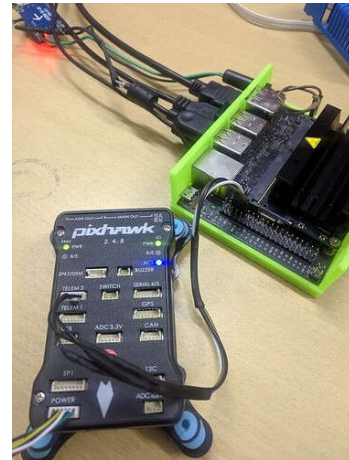


Jetson and Pixhawk Connection and their Method

Connection Method

UART Connection:

- Jetson features UART (Universal Asynchronous Receiver/Transmitter) interfaces for serial communication with Pixhawk.
- Pixhawk has dedicated UART ports (e.g., TELEM1, TELEM2) designed for companion computers like Jetson.
- To establish the connection:
- Connect Jetson's UART TX (Transmit) pin to Pixhawk's UART RX (Receive) pin.
- Connect Jetson's UART RX pin to Pixhawk's UART TX pin.
- Connect the ground pins of both devices.



Communication Protocols

UART/Serial Protocol

- A basic serial communication protocol can be used for data exchange between Jetson and Pixhawk.
- This involves sending and receiving data packets over the UART interface, adhering to a predefined protocol for data formatting and interpretation.
- This method is suitable for simpler applications.

Jetson:

- Processes sensor data: Analyzes camera feed and sensor data to understand the environment.
- Runs algorithms: Executes computer vision and machine learning algorithms for tasks like object detection, obstacle avoidance, and path planning.
- Sends control commands: Based on processed data, Jetson transmits navigation commands or waypoints to Pixhawk using the MAVLink.

Pixhawk:

- Receives commands: Obtains navigation commands or waypoints from Jetson.
- Controls drone: Translates high-level commands into low-level control signals for motors, servos, and other actuators.
- Maintains stability: Integrates data from various sensors (GPS, IMU, barometer) to stabilize the drone and maintain its desired position and attitude.
- Provides telemetry: Continuously monitors the drone's state and transmits telemetry data back to Jetson for further processing and decision-making.

