FPV Ground Drone – Personal Project

Project Overview

This project involved designing and building a first-person-view ground drone inspired by video game robotics. The objective was to create a mobile platform capable of live video streaming and remote control entirely from a smartphone.

Technical Details

The chassis was modeled in Fusion 360 using design-for-manufacturing and design-for-assembly principles. An ESP32 microcontroller handled motor control and WiFi communication. Structural components were 3D printed in PLA, and electronics were assembled on perfboard and programmed in C++. Power was provided through a regulated battery system, achieving a reliable control range of approximately 15 meters. Planned upgrades include autonomy and sensor integration.

Images