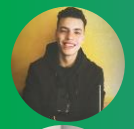
Software Tools

- CST
- Python
- Labelimg
- Pycharm
- Miniconda
- Pytourch

Beneficiary entities and institutions

- Government agencies and security forces.
- Academia and Research Institutions (Educational and training purposes).
- Private Security Companies

Team Members



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Department of Electronics and Communication Engineering

A standalone jammer system utilizing AI for detection enhancement

Solution for no drone zone

Supervised By/

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System Overview

Our project is a standalone high-gain jammer system designed to disrupt unmanned aerial vehicles (UAVs) operating on GNSS frequencies. The system utilizes four strategically placed helix antennas to achieve broad frequency coverage and employs a YOLO-based tracking system for accurate jamming. To ensure continuous operation, a solar-powered standby system provides reliable backup for the tracking unit. Experimental evaluations demonstrate the effectiveness of the system in disrupting UAVs, highlighting its potential to enhance security in sensitive areas and protect critical infrastructure.

System Advantages

- Development of Specialized Counter-Drone Technologies.
- Improved Understanding of Jamming Techniques.
- Providing a local product and developing technology instead of importing from abroad.

Project's Modules

Jammer system

Solar Panel system

Tracker System

Jammer system :

- Four high gain helical antennas cover GNSS frequencies

Solar Panel system:

- Polycrystalline type

Tracker System:

- YOLOv9

System Components

RF signal generator

Camera

RF Power amplifier

Arduino

Battery 12v-7A

Power supply 24v-10A

Stepper motor

POe