

Smart India Hackathon-2023

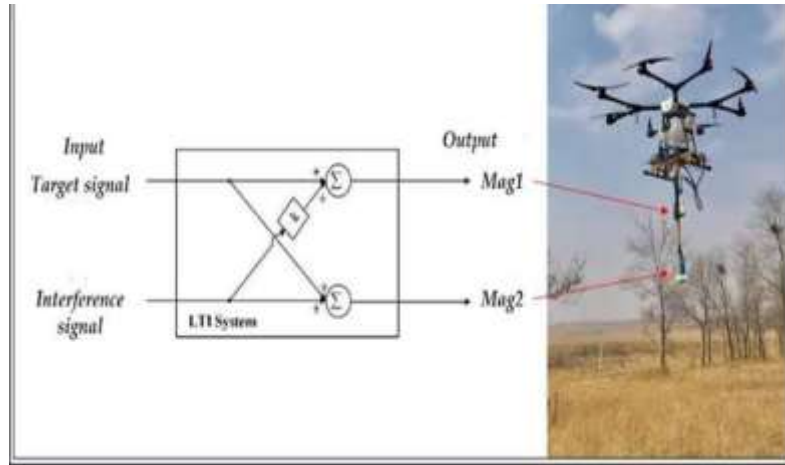


Team Name : Doorlock

Project Code : SIH 1414

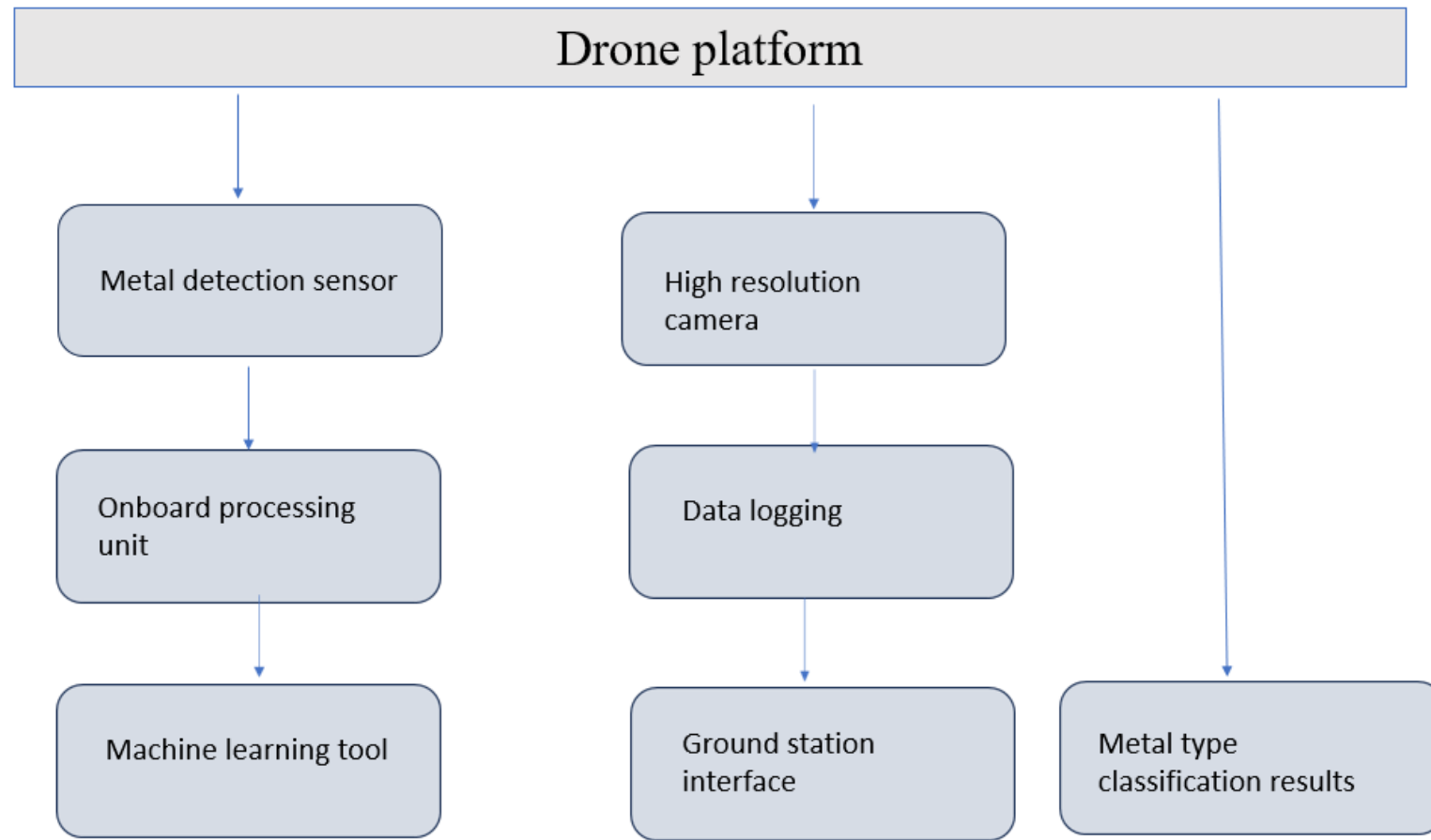
Project Title: Drone metal detection

ABSTRACT :



- Aids the Ministry of Defence in metal detection and classification for defense applications.
- Custom drone with metal detection sensor and high-resolution camera.
- Onboard processing unit for real-time data analysis.
- Machine learning model for metal classification based on electromagnetic signatures.
- Data logging for storing collected information.
- Ground station interface for real-time data display..

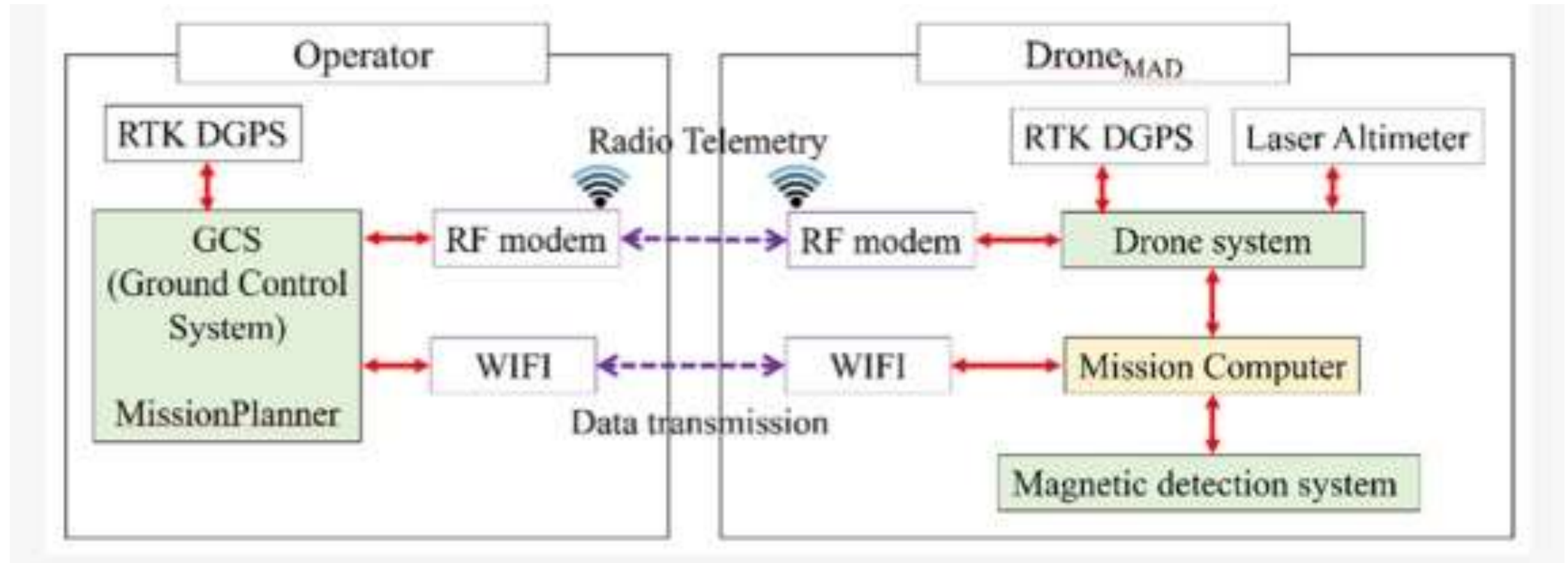
**F
L
O
W
C
H
A
R
T**



WORKFLOW

- Drone equipped with metal detection sensor and high-res camera collects data.
- Metal detection sensor records electromagnetic properties of detected metals.
- High-resolution camera captures terrain images.
- Onboard processing unit analyzes data in real-time.
- Machine learning model classifies metals based on electromagnetic signatures.
- Collected data is stored.
- Ground station interface provides real-time information.
- System aids in metal detection and classification for various applications.

Schematic Diagram



Conclusion

In conclusion, this project provides a powerful solution for metal detection and classification. The integrated system, comprising a custom drone, real-time processing, and machine learning, enhances Ministry of defence operations by offering:

- Real-time intelligence through the ground station interface.
- Preservation of historical data for analysis.
- Efficient and automated metal classification.
- Versatile applications in security and defense.
- This project embodies the fusion of advanced technology and practical utility, significantly improving national security and defense capabilities.

