



Drona Aviation Pvt. Ltd.

**Contact:** +91-7208255431 | **Email:** [info@dronaaviation.com](mailto:info@dronaaviation.com)

---

# SUBMISSION GUIDELINES

## INTER IIT TECH MEET 14.0



Drona Aviation Pvt. Ltd.  
Contact: +91-7208255431 | Email: [info@dronaaviation.com](mailto:info@dronaaviation.com)

---

# SUBMISSION GUIDELINES / CRITERIA

---

## 1. Required Deliverables

Each team must submit **four main components**:

---

### A. Firmware Implementation

A complete MagisV2-ready codebase including:

- Sensor reading + filtering (OF, ToF, IMU)
- Velocity estimation
- Position, velocity, attitude controllers
- Auto-hover logic
- Micro-movement execution
- Parameter tuning
- Fallback behavior under poor sensor input
- Modular and readable structure

**Format:** Complete Project ZIP file.



Drona Aviation Pvt. Ltd.  
**Contact:** +91-7208255431 | **Email:** [info@dronaaviation.com](mailto:info@dronaaviation.com)

---

## B. Technical Documentation (PDF)

Must include:

1. System Architecture Diagram
2. Sensor Fusion Design (OF + ToF + IMU + Baro)
3. Control Architecture (Position → Velocity → Attitude)
4. PID Tuning Strategy + Final Gains
5. Hover Stability Results
6. Micro-Movement Accuracy Results
7. Logs, graphs, plots, overlays [if any]
8. Failure Handling Strategy
9. Limitations, improvements

## C. Demo Video

The video must show:

1. Takeoff
2. Stable hover
3. Drift-free stability
4. Altitude hold up to 2m
5. Disturbance recovery



Drona Aviation Pvt. Ltd.  
**Contact:** +91-7208255431 | **Email:** [info@dronaaviation.com](mailto:info@dronaaviation.com)

---

6. 10–20 cm micro-movements in:

- Forward
- Backward
- Left
- Right
- Up
- Down

7. Smooth stop and instant hover at each target

#### **D. Submission Structure**

Submission\_IITNAME/  
|\_\_ Code/  
|\_\_ Docs/  
| |\_\_ Technical\_Report.pdf  
|\_\_ Video/  
| |\_\_ demo.mp4  
|\_\_ README.md

#### **E. Instructions to Edit plutoide.ini**

1. Open the file named plutoide in any text editor (Notepad, VS Code, Sublime, etc.).
2. Inside the file, you will find the following line:
3. **project\_name = IntIITXX**
4. Replace XX with the unique 2-Digit code of your IIT.
5. Do not change anything else in the file.



Drona Aviation Pvt. Ltd.  
Contact: +91-7208255431 | Email: [info@dronaaviation.com](mailto:info@dronaaviation.com)

---

## 2. Submission Deadlines

Teams must submit all deliverables before the official deadline announced by the organizers.

## 3. Submission Criteria Checklist

### Firmware

- Runs fully on-board
- Stable, deterministic performance
- No external compute

### Documentation

- Clear explanation of approach
- Includes reasoning for design choices
- Includes plots, measurements, overlays

### Video

- Demonstrates all required functionalities

### Code Quality

- Modular
- Readable
- Well-commented
- Maintainable