

I-STEM Software Request - Guide Approval Form

User Details

- Name of Researcher: MADHURI SANKAR CHAVAN
- User Type: ☒ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☐ Masters
- Institution Name : NIT CALICUT
- Institutional Contact No: 0495 228 6106
- Research Topic: Design and Implementation of Control Schemes for 3 DOF Inertial stabilization platform.

Software Request Details

- Software Name: LabVIEW
- Justification for Software Request: LabVIEW specifically supports the 3-DOF inertial stabilizing platform by facilitating three core functions essential to its operation: data acquisition, signal processing, and precise control implementation. Firstly, for data acquisition, LabVIEW easily interfaces with IMUs (gyroscopes and accelerometers) via built-in drivers, enabling real-time capturing and monitoring of angular rates and orientation. Secondly, LabVIEW's comprehensive suite of tools for signal processing—including filtering, sensor fusion (e.g., Kalman filtering), and noise reduction—ensures accurate calculation of platform orientation from raw sensor data. Lastly, LabVIEW's graphical programming environment and real-time modules simplify control implementation, allowing rapid development and execution of PID or advanced control algorithms for actuators, ensuring precise and reliable stabilization across all three axes of the gimbal system.

Guide/Supervisor Approval

I, Dr. S. N. DEEPA (Guide/Supervisor Name),

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

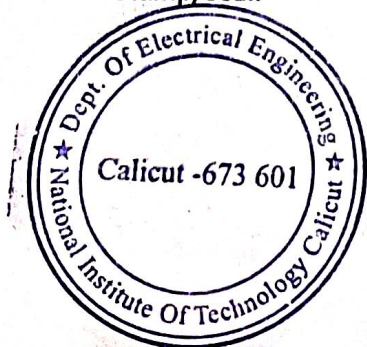
Approval Confirmation

- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

Guide/Supervisor Signature: S. N. Deepa

Date: 11/03/2025

Official Stamp/Seal:



(S. N. DEEPA)
Asso. Prof / EED

The scholar may be permitted to use the facility for research purpose