Flight Control Systems Internship

About Us

Meridian Flight Systems Ltd. is a British aerospace start-up pioneering the development of the Corra Unmanned Aerial Vehicle (UAV)—a large, hybrid-powered UAV with vertical takeoff and landing (VTOL) capabilities. The Corra is intended for logistics, defence, law enforcement, and infrastructure inspection.

Role Overview

This internship offers practical experience in flight dynamics modelling, control system design, and real-time simulation. You will develop, test and refine the Corra UAV's six-degree-of-freedom (6-DoF) model, followed by Software-in-the-Loop (SiL) and Hardware-in-the-Loop (HiL) testing using MATLAB and Simulink.

Responsibilities

- Develop a 6-DoF flight dynamics model in MATLAB/Simulink.
- Implement rigid-body kinematics, aerodynamics, and actuator dynamics.
- Design and tune Proportional-Integral-Derivative (PID) and Linear Quadratic Regulator (LQR) controllers.
- Integrate sensor models such as Inertial Measurement Unit (IMU) and Global Navigation Satellite System (GNSS).
- Conduct SiL and HiL testing for control validation.
- Assist in real-time embedded software development for flight control deployment.

Qualifications

Enrolled in a BSc or MSc in Aerospace Engineering, Mechatronics, or Control Systems Engineering
Strong understanding of flight dynamics, control theory, and aerodynamics.
Experience with MATLAB, Simulink, and Simulink Control Design.
Programming skills in C, C++, or Python for embedded systems.
Familiarity with Model-based Design (MBD) and Rapid Control Prototyping (RCP) is a plus.

Development Process

- 6-DoF Simulation Development – Build and validate UAV flight dynamics.
- Control Law Design – Develop autopilot controllers.
- SiL Testing – Validate control laws in simulation.
- HiL Testing – Test real-time implementation on hardware.
- Flight Test Support – Integrate findings into final architecture.

To Apply, send your CV and cover letter to info@meridianflight.com with the subject “Flight Control Intern Application.