

Omnidyne Systems is seeking a Senior Aircraft Stability & Control Systems Engineer to join our Engineering group in Ahmedabad, Gujarat.

The Senior Aircraft Stability & Control Systems Engineer will design, develop, and evaluate various flight dynamics profiles for an in-development UAV platform. Candidate will have the opportunity to be part of an active, dynamic, and fulfilling professional environment working at the forefront of the Aerospace frontier. Send the CV to general@omnidynesystems.com

Job Description:

- Research and implement algorithms on control systems & sensor technologies.
- Develop 6 Degrees of Freedom (6DOF) mathematical models for aircrafts and design PID based controller for the same.
- Evaluate Stability and Dynamic Derivatives for the firm's in-development aircrafts.
- Evaluate variations in a 6DOF model with changes in Center of Gravity (CG), Aerodynamic center, neutral point, etc. (From which to provide suggestions for ideal location (or range) for these points based on stability graphs for each flight phase.)
- Produce Mathematical and Physics based model to encounter for Propwash as well as variable CG.
- Evaluate the potential for departure (i.e., loss of control) in subsonic flight using linear, time-invariant dynamic models which incorporate longitudinal-lateral- directional coupling.
- Analyze effects of wing and tail flexibility as well as flutter effects on controls and stability.
- Evaluate Control Surface Trimming (AOA for tail, Control surface sizing, Deflection).
- Develop Simulink based model to optimize recovery parameters.
- Use a multivariable limit cycle analysis technique (MULCAT) to predict possible self - induced nonlinear oscillations, and evaluate the results of this prediction using a direct simulation of the nonlinear dynamic model.
- Develop a method for designing departure-prevention command augmentation systems (DPCAS) for an entire flight envelope. Use this for estimating recovery parameters in case of autopilot failure.

Education:

- Bachelor's in Aerospace Engineering required (with specialization in flight dynamics and controls).
- Master's in Aerospace Engineering preferred.

Experience:

- 5 - 10 years of related experience developing flight dynamics models, performing stability & controls analyses, and control systems engineering.
- Prior experience in a defense firm, UAV development firm, or government organization focused on Aerospace technology development is highly preferred.

Qualification:

- Have strong knowledge of aircraft/UAV control systems and Flight Dynamics
- Strong knowledge of related programming languages including C/C++, Python, etc.
- Have strong experience with MATLAB/Simulink tools
- Having CFD knowledge shall be an added advantage
- Experience developing software compliant with DO-178 standards.
- Strong knowledge of mathematical model development such as 6DOF.
- Fluency in English (reading, writing, and speaking) is required – Good Communication in English.
- Must be flexible, open to new challenges and a dynamic environment, and possess strong technical expertise combined with strong verbal and written communication skills.
- Ability to manage multiple priorities with little supervision.
- Must be a highly responsible, team-oriented individual with strong work ethic.
- Must have highly developed coordination and organization skills.