**Loads & Criteria Engineer**

at Overair, Inc.

Santa Ana, CA

**Company Overview**:

At Overair, we are dedicated to bring next generation sustainable air transportation to everyone.  Our answer is Butterfly, an all-electric vertical takeoff and landing (VTOL) aircraft designed to safely and affordably carry passengers over traffic and congestion.  Butterfly leverages over two decades of VTOL aircraft development, patented VTOL technology, and flight vehicle experience.

Overair believes in the lofty goals of sustainable air mobility and we are committed to solving the hard challenges along the way.  We are building an industry leading team covering an expanse of skills, talents, and expertise in order to build a superior electric VTOL aircraft.  If you enjoy solving difficult problems, and seeing your ideas and visions expressed in flight hardware, we want you on our team.

**Job Overview:**

Overair is seeking an experienced Loads & Criteria Engineer to take ownership of loads and requirements development for our VTOL aircraft.  Qualified candidates will be responsible for development of data processing scripts incorporating aerodynamic data and various analyses.  This role requires the candidate to thrive in a high paced environment and be comfortable with the design, development, and test life cycle of rapid aerospace R&D.  This role will include interfacing with engineering management, certification authorities, and fellow engineers and analysts, so strong communication and inter-personal skills are required.

**Roles and Responsibilities:**

* Vehicle loads and criteria support through the aircraft development life-cycle.
* Design, development, testing, and certification of Butterfly
* Determine and document vehicle loads and criteria per Overair and FAA certification requirements
* Develop usage spectrums for analysis and sizing of the vehicle and sub-systems
* Maintain loads and criteria documents for engineering and certification
* Perform aerodynamic analysis to develop loads databases for all flight phases
* Collaborate with other aerodynamicists and engineers to incorporate other datasets into loads and criteria development
* Familiarity with version-controlling.  This position will require maintenance of configured load-sets for all primary and secondary structural components on the air-vehicle.
* Collaborate with Overair certification leads and the FAA regarding loads and criteria certification strategy
* Work closely with the Structural Design and Test and Evaluation groups to define loading conditions and criteria for structural test plans for sub-system and aircraft level testing

**Required Qualifications:**

* 4 years of aircraft/rotorcraft loads and criteria experience
* BS / MS in Aerospace, Mechanical, Electrical, Computer Science, or relevant fields
* Extensive understanding of aircraft aerodynamics, flight dynamics, and load derivation methodology
* Extensive experience with static and dynamic load derivation for aircraft
* Experience with aero-structural analysis tools (AVL, ASWING, NASTRAN, FLIGHTLAB, CHARM)
* Strong proficiency in Matlab and/or Python scripting to automate the generation of large datasets and parsing data into usable formats for the larger engineering community

**Desired Qualifications:**

* Experience with loads and criteria development for certified aircraft and rotorcraft (14 CFR part 23, 25 and 27)
* Familiarity with the design specifications and requirements process, including traceability and substantiation
* Experience in EVTOL design and development
* Experience with aero elastics, structural dynamics, and rotor dynamics
* Familiar with simulation and analysis tools such as:
* Comprehensive Aeromechanical Codes: CAMRAD II or RCAS/GRCAS
* FEM/Computational Structural Analysis Codes: NASTRAN, Hypermesh/Optistruct
* Dynamic Simulation and Analysis: LSDyna, MSC Adams
* Aerodynamic Codes: XFoil, STAR CCM and others
* Control System Design and Analysis Codes: FlightLab, Matlab/Simulink, CONDUIT/CIFER
* Knowledge of structural analytical methods and testing
* Familiarity with data management, revision and version control: Bitbucket/Git