**Principal Flight Software Architect**

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 flying aircraft, we want you on our team.

**Job Overview**:

As the Principal Flight Software Architect, you will be responsible for the development of flight software architecture and processes for an electric fly-by-wire aircraft. The ideal candidate is a self starter with proven experience developing software for demanding safety critical environments. You will play a key role on the software team working closely with other engineering teams to deploy successful software products across the aircraft.

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:**

* Define flight software architectures to build robust safety-critical software systems
* Collaborate with multidisciplinary teams to define software requirements, architectures, and designs
* Oversee rapid development prototypes to assess and burn down technical risks
* Oversee development of fault tolerant flight software responsible for the overall command and control of an aircraft
* Drive requirements for development and test of board support packages for embedded platforms
* Oversee development of simulation of target environment to accelerate development and integration testing
* Oversee efforts to integrate software components, create and run unit tests, validate on Hardware-in-the-Loop and release real-time embedded solutions
* Coordinate with hardware, control and system engineers to plan, develop, and lead system verification and qualification, to ensure software products that meet system requirements and safety-critical standards
* Lead and contribute to production of technical documentation for software architecture, design, verification plans
* Collaborate with the certification and safety team to develop the Plan for Software Aspects of Certification (PSAC)
* Work with system engineering to decompose item requirements into high level and low level software requirements in compliance with DO-178C
* Leading and mentoring other hardware and software development engineers on the team

**Required Qualifications:**

* Bachelor's or advanced degree in computer science, electrical engineering, or other related fields
* 10+ years of software development experience, with a proven track record as a Software Architect or Software Technical Lead.
* Experience designing, deploying and supporting one or more complete flight control systems or systems of similar complexity and safety criticality
* Demonstrated software development skills in embedded systems (bare-metal and RTOS), particularly in C/C++
* Experience with fault-tolerant design and fault-tolerant communication
* Experience in full lifecycle software development of embedded systems, including system design and analysis, requirement capture and development, software implementation and verification, system integration, qualification, and release.
* Experience in build automation, continuous integration, configuration management, verification, deployment of software
* Experience developing safety critical software complying with standards: DO-178C, DO-330, or ISO 26262
* Experience with diverse tools and technologies used for the development, testing, and analysis of DO-178C software, including modern integrated development environments and debuggers
* Familiarity with aerospace communication standards and protocols (RS-422/485, CAN, ARINC-429, SPI, I2C, etc)
* Experience managing project requirements, priorities, scope, schedule, resources, cost and reporting
* Highly organized team player with excellent technical written and verbal communication skills.
* Demonstrated track record of resourcefulness from their previous assignments.

**Desired Qualifications:**

* Experience interfacing with controls software written in C/C++/Simulink
* Experience with time and space partitioned real-time software systems
* Experience in definition of integrated avionics and software environments, including Hardware-in-the loop facilities
* Experience with Embedded Linux, GNU toolchain, Python, MATLAB/Simulink, real-time operating systems, serial communication
* Experience with Guidance, Navigation and Control software integration in an embedded system, and familiarity with flight sensors and actuators
* Experienced with AI/ML optimization in embedded systems
* Strong skills in debugging, performance optimization and unit testing