

POSITION TITLE:

Controls Engineer

POSITION DESCRIPTION SUMMARY:

TurbAero is developing a line of small gas turbine engines for application to light aviation and power generation. We are seeking a well-rounded and experienced controls engineer to be responsible for engine FADEC and power electronics controls and support data acquisition activities. The ideal candidate is a practical engineer with experience in designing control systems and DAQ for gas turbines and a self-starter who would be excited about helping a small aviation start-up launch a family of gas turbine engines.

PRINCIPAL DUTIES AND RESPONSIBILITIES:

- Overall responsibility for the clean-sheet design and development of gas turbine control systems for FADECs, power electronics, as well as the DAQ for a family of small gas turbine engines.
- Modify the developed system to control the quasi-steady-state and transient behaviour of gas turbine components and systems in aerial maneuvers.
- Work in all areas of the system development cycle including detail design, integration, simulation, bench testing, engine prototype, and flight tests. The Controls Engineer will be guided by the senior technical staff for the overall development of the system and the interconnectivity of the components.
- Work closely with other members of the design and product support teams.
- Prepare or review technical reports documenting design/analysis results and status.

EDUCATION AND EXPERIENCE:

- A bachelor's degree in Electrical, Mechanical, or Aerospace Engineering with 3-5 years of experience designing and implementing gas turbine engine control systems and general data acquisition systems, or an equivalent combination of a research master's degree with a specialization in controls, and relevant experience.

ABILITIES:

- Must have a strong fundamental understanding and academic background in control systems, signal processing, microprocessor/DSP/FPGA code development, and gas turbines.
- Must have proficiency in model-based control development using Simulink, MATLAB, Stateflow, Real-Time Workshop, or Embedded Coder.
- Hands-on experience with testing and troubleshooting control systems. Experience testing and troubleshooting control systems for gas turbines is preferred.
- Experience with Hardware-in-loop (HIL), Model-in-loop (MIL), Software-in-loop (SIL), and software verification is an asset.
- Experience in developing the control software and troubleshooting FADECs for gas turbine engines is desirable.
- Understanding of power electronics is an asset.
- Fast learner, able to analyze and resolve problems independently in a small company environment.
- Excellent communication, teamwork, and interpersonal skills; committed to working collaboratively.

OTHER POSITION INFORMATION:

- Reporting – The candidate will report directly to the Power Electronics and Controls Engineering Manager.
- Location – The design office is in Ottawa, Canada, but remote work may be considered for the right candidate. US and international travel may be required.
- This role is restricted to Canadian citizens, permanent residents of Canada, and US persons.