

Controls Engineer

Why ClearFlame

Diesel engines are critical to world economies and quality of life. However, they are currently coupled to dirty diesel emissions. At ClearFlame Engine Technologies, we are breaking the bond between the diesel engine and diesel fuel, clearing the path to gigaton scale emissions reduction for hard-to-electrify applications, including heavy-duty trucking, power generation, and other off-highway markets.

Easily integrated into existing engines and new production, ClearFlame maintains the same rugged performance and practicality at a much lower cost than current alternatives, offering a rapid pathway to decarbonizing diesel-dominated sectors worldwide. By allowing these engines to keep fulfilling their vital functions—but replacing diesel with plant-based, low-carbon liquid fuels—ClearFlame simultaneously addresses their climate impact, as well as the energy equity and environmental justice issues that disproportionately affect underrepresented populations globally.

We are on a mission to free global economies from a need for petroleum-based fuels in heavy-duty applications. We have big ambitions, but we can't do it alone. We need talented, passionate individuals to help make our vision a reality. In return, we provide comprehensive benefits and are committed to providing a positive team culture—supporting our team relentlessly and focusing on creating personal successes as well as organizational ones.

About the Position

Summary

We are seeking creative, highly motivated, agile problem solvers with passion and expertise in Automotive Controls with great attention to detail. The selected candidate will develop controls and diagnostics using Matlab Simulink and supporting tools.

Essential Duties and Responsibilities

- Define and implement controls and diagnostics subsystem level requirements that:
 - Ensure compliance to safety and government regulations while developing CFE internal best practices.

- Meet higher level physics-based requirements with efficient designs using modeling, simulation, data collection, and analysis.
- Develop controls-oriented model:
 - Selection of the appropriate method to control and/or diagnose a given feature
 - Consideration for system characteristics and constraints with input from multifunctional team
- Help define calibration strategies and promote model-based practices in algorithm strategies and calibrations
- Support resolution of vehicle or customer issues related to controls and calibration
- Help build tools, libraries, and training material to enable capability growth and support learning of the team
- Travel as required

Education and Experience Requirements

- BS in Engineering, Computer Science, or equivalent degree.
- Minimum 2+ years Engineering experience with preferred working experience related to embedded controls and/or controls/software development
- Skilled with one or more of the following: Simulink, MATLAB, GIT environment(s), IntrepidCS Vehicle Spy, Speedgoat; plant modeling and analysis tools
- Ability to work in a fast-paced environment with sometimes incomplete requirements
- High level of analytical problem-solving skills where problems are unusual and difficult
- Demonstrated ability to manage complex projects and assignments with a high level of autonomy and accountability for results

Preferred Skills and Experience:

- MS in Engineering with focus on controls. In depth knowledge of algorithm development and calibration for propulsion system controls.
- Embedded controls development experience
- Sophisticated sub-system integration including design, implementation, and testing
- System Modeling and Simulation (Software, Hardware, Model in-the-loop)
- Controls software development in C Programming
- Vehicle Propulsion, Chassis Control, Vehicle Energy Transfer and Automotive System knowledge is a plus
- 1 year of progressive experience in embedded control system design & development of diesel/natural gas engine systems, electro-hydraulic systems, or electrical machine systems; Matlab/Simulink or C++; Datalinks such as CAN, J1939, Ethernet, and/or Modbus.
- experience in tuning/calibrating engines with an ECU
- Diesel engines preferred
- Performance tuning a plus



- Familiarity with common rail diesel fuel systems a plus
- Strong background in engine control related sensors/actuators.
- Experience designing and building engine wiring harnesses
- Experience with turbo technology from a tuning perspective

Physical Requirements

- Prolonged periods of sitting at a desk and working on computer
- Must be able to lift 25 lb. unassisted at times
- Travel as required to Geneva, IL and other locations
- Position location is at the lab facility in Columbus, IN.

TO APPLY: EMAIL RESUME AND COVER LETTER TO HR@CLEARFLAMEENGINES.COM

Equal Opportunity Employer:

ClearFlame is an Equal Opportunity Employer. Employment decisions are made without regard to race, color, religion, national origin, gender, sexual orientation, gender identity, age, physical or mental disability, genetic factors, military/veteran status or other characteristics protected by law.