Motor Test Engineer

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About C-Motive

C-Motive is a startup based in Middleton, Wisconsin, developing electrostatic motors designed to improve performance and energy efficiency. Our ZeroMag™ motors eliminate the need for magnets and rare-earth materials, offering an alternative to traditional motor technology. We are reinventing the electric motor. Our ZeroMag electrostatic motors use electric fields instead of magnets and copper windings, bringing together advanced dielectric fluids, high-voltage electronics and precision mechanical design. We are a small, fast-moving team where every person's work shapes the product.
With electric motors accounting for nearly half of global electricity consumption, C-Motive aims to make a meaningful impact on energy use worldwide.

At C-Motive, we believe achieving this mission starts with building a strong team and a supportive company culture. We bring together talented, motivated people who are empowered to contribute ideas, take on challenges, and help move the company forward.

Motor Test Engineer

We're looking for an experienced motor test engineer who gets excited about unlocking the secrets hidden in data. You'll work with the development and engineering teams to design and run motor tests and experiments that span chemistry, electrical engineering and mechanical systems, then turn the results into insights that steer our motor, fluid and drive development.

This is a hands-on role for someone who is as comfortable at the dynamometer as in a data set, and who thrives on multidisciplinary problems where the answer rarely sits inside a single field.

You'll love this role if you're an avid learner who enjoys picking up new fields as fast as the problems demand. You're happiest with your hands on the hardware, you get a little thrill when the data tells you something unexpected, and you'd rather explain a result clearly than impressively. You like small teams where your work is visible and matters.

What You Will Do

- Plan, build and run motor and drive tests on dynamometers, from quick bench experiments to performance and efficiency mapping, reliability and life tests.
- Develop and maintain test automation and data acquisition in LabVIEW, and design and commission test stands, fixtures and instrumentation.
- Investigate electrochemical behavior inside our motors, such as fluid conductivity and resistivity, degradation, contamination and electrode/material interactions under high electric fields.
- Design experiments that connect chemical, electrical and mechanical variables, and choose the right instruments and fixtures to measure them.
- Dig into data sets to find trends, root causes and surprises; build clear analyses and visualizations that teammates can act on.
- Set up and improve test procedures, data capture and record keeping so results are repeatable and traceable.
- Partner closely with chemistry, electrical, mechanical and manufacturing colleagues to define what to test, interpret results together and decide next steps.
- Communicate findings in concise reports, presentations and conversations with technical and non-technical audiences.
- Keep the motor test lab running: maintain equipment, follow safety practices for high-voltage and chemical work, and suggest new capabilities as needs grow.

Qualifications

- Bachelor's degree or higher in a science or engineering field (e.g., chemistry, chemical engineering, electrical engineering, mechanical engineering, materials science, physics).
- 5+ years of hands-on industry experience in motor or electromechanical testing, experimentation or R&D.
- Hands-on experience testing electric motors and drives, including:
    - Running dynamometer tests (e.g., absorption/brake dynos, motoring and performance dynos, hysteresis or eddy-current dynos) to map torque, speed, efficiency and power.
    - Developing test automation and data acquisition in LabVIEW (or similar, e.g., NI TestStand, Python).

    - Working with torque transducers, encoders, power analyzers, oscilloscopes and thermal measurement.
    - Characterizing performance, efficiency maps, thermal behavior, durability and vibration/noise.
    - Designing and commissioning test stands and fixtures, including safe setup for high-voltage equipment.
- Equally comfortable reasoning about chemical, electrical and mechanical concepts, and about how they interact.
- Track record on multidisciplinary projects, working across functions to reach a result.
- Strong data analysis skills and genuine curiosity about what a data set can reveal.
- Clear, confident written and verbal communication.
- Collaborative mindset: you share credit, ask for help and help others.
- Hands-on self-starter who can take a loosely defined question, plan the work and see it through.

Bonus Qualifications

- Experience with MATLAB (or Python) for data analysis and modeling.
- Experience with design of experiments (DOE) methods or software such as JMP, Minitab or Design-Expert.
- Experience testing motor controllers/inverters or non-traditional machines (e.g., high-voltage or electrostatic motors).
- Familiarity with motor test standards (e.g., IEEE 112, IEC 60034).
- Direct experience with electrochemical systems (e.g., batteries, fuel cells, ultra capacitors, dielectric or electrolyte fluids).
- Experience with electrical and electrochemical characterization (e.g., impedance spectroscopy, dielectric breakdown, resistivity measurements).
- Experience in a startup or early-stage product development environment.

C-Motive is committed to equitable compensation, and we offer a generous benefits package to make sure you have the support you need. We offer a take-what-you-need paid time off program and every employee, regardless of gender identity or expression, is eligible for paid parental bonding leave. We have implemented a 401k program and all employees are granted stock options with typical vesting periods.
We are committed to creating an inclusive environment for all our employees and are seeking to build a team that reflects the diversity of the people we hope to serve with our revolutionary products. C-Motive is proud to be an equal opportunity employer.

To learn more about C-Motive, our team, and our company culture, please visit:
c-motive.com/about/mission-vision-and-values

Apply for this position here:
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