

JOB ANNOUNCEMENT

PART TIME AND SUMMER INTERN POSITIONS

COMPANY OVERVIEW

MagCanica, Inc., a product-focused technology company formed in early 2000 with offices in San Diego, CA and Pittsfield, MA is actively seeking new members to join our engineering team as we expect continued growth during 2011 and beyond. Since the Company's inception ten years ago, MagCanica has focused its efforts on the development and commercialization of its proprietary technologies, consisting of non-contact torque (TRQ) sensor systems and rate-of-change-of-torque (ROC) based condition monitoring systems for motorsport, aerospace, and energy applications. At present, MagCanica supplies hardware and provides engineering services to various racing teams throughout the globe across all the major series (Formula 1, IndyCar, NASCAR, and American Le Mans), and to the US Military in conjunction with The Boeing Company and Sikorsky Aircraft Corporation, and to General Electric Oil & Gas. With world-renowned inventor Ivan J. Garshelis leading MagCanica's technological development, MagCanica has distinguished itself as the market leader in torque measurement for motorsport applications, and is emerging as a real player for helicopter driveline applications. Leveraging its existing torque and ROC product lines, MagCanica is poised to expand in both its existing markets and in new markets such as the energy sector and condition monitoring applications.

CORE COMPETENCIES

The Company's core competencies are primarily in the areas of product and technology development. The Company's key strengths are in the following areas:

- Torque (TRQ) and rate of change of torque (ROC) measurement on rotating shafts
- Utilizing magnetoelastic properties of functional steels for sensing applications
- Sensor development and packaging for applications in harsh environments
- Mechatronic systems which combine mechanical, magnetic, and electrical systems
- Gearbox health condition monitoring algorithms based on ROC signatures

JOB DESCRIPTION

The types of tasks a MagCanica Mechanical Engineer may be responsible for carrying out are listed below. As MagCanica designs products which measure mechanical parameters using analog magnetic field sensing technology, projects will typically require a multidisciplinary approach, consisting of combinations of mechanical and electrical engineering, magnetics, and the implementation of data acquisition and signal conditioning. Typical mechanical engineering projects involve the design of sensor housings, mechanical packages, and laboratory testing machines. Additional tasks may include carrying out experiments and validation testing, interacting with suppliers, liaising with clients, and applying the science of magnetoelastics towards the development of practical devices. MagCanica engineers have the opportunity to be intimately involved in all aspects of the engineering cycle: R&D, advanced engineering, application engineering, manufacturing, testing, and field support.



FORMULA 1 RACECAR APPLICATION



CLUTCH SHAFT TORQUE SENSOR ASSEMBLY

SAMPLE TECHNICAL TASKS

Sample Technical Tasks:

- Design and development of custom sensors for various automotive racing, aerospace, and energy applications. Carry a product from initial concept through final testing and release for production.
- Work independently or with teams to design, develop, and improve upon infrastructure currently used during sensor processing, testing and calibration. Examples of such equipment include torque testing rigs, speed testing rigs, and calibration hardware.
- Conduct and supervise testing programs including temperature, thermal cycle, vibration, overload, and magnetic compatibility testing.
- Work with MagCanica's R&D team to develop new magnetoelastic sensor-based products such as integrated torque/speed sensors, force sensors, mechanical system condition monitoring products, and non-destructive evaluation (NDE) probes and scanners.
- Support infrastructure development by implementing software upgrades using programs such as Labview and Matlab.
- Support research projects internal to MagCanica, such as contributing to the development of the rate of change of torque sensor to be applied to condition monitoring systems.

SAMPLE OTHER TASKS

- Analyze and professionally document laboratory test, dyno test, and track data pertaining to the systems and/or components described above.
- Travel to client sites in Europe, Japan, and the US to monitor system installation and provide field support at dyno tests, track tests, and races as required.
- Assist in drafting and presenting technical proposals to prospective and existing clients.
- Contribute to the creation of technical papers, articles, and patents. Attend conferences and present peer-reviewed papers to world experts in the field.



CLUTCH SHAFT TORQUE SENSOR AND MEASUREMENT SHAFT



FIELD SUPPORT AT CAMP PENDLETON ACU(5)- NAVY LCAC HOVERCRAFT



RATE-OF-CHANGE-OF-TORQUE SIGNAL PROCESSING MODULE



BENEFITS, QUALIFICATIONS, AND TRAINING

COMPENSATION & BENEFITS

MagCanica offers competitive compensation including a yearly performance-based bonus, yearly merit salary raise, 3 weeks of vacation, and 10 holidays per year for full time positions. Benefits include medical, dental, workers' compensation, disability, and life insurance as well as a 401K program. Part time positions offer competitive compensation with a flexible working schedule. The Company works hard to allow employees the greatest possible personal flexibility while achieving our overall engineering and business objectives.

JOB QUALIFICATIONS

For part-time positions, candidate should have or be working towards a Bachelor's or Master's degree in Mechanical engineering and have at least two years of prior undergraduate study at the time of the internship. Outstanding applicants pursuing other degrees such as electrical or aerospace engineering will be considered, as will outstanding applicants without prior experience. In general, being comfortable with both mechanical and electromechanical aspects of electro-mechanical systems is very important. An interest in applied physics is often helpful.

Proficiency in Microsoft Office (Word, Excel, Powerpoint, Outlook, Project), Orcad (or equivalent), and Matlab is expected. A limited background in 3D computer aided design (e.g. SolidWorks, CATIA, or ProE) is recommended though not required.

THE TYPE OF PERSON WE ARE LOOKING FOR

We are looking for self-motivated engineers who have the ability to learn quickly and possess outstanding interpersonal and technical skills. Our approach to engineering is highly interdisciplinary and involves a unique combination of theory and execution. This means carrying out rigorous analysis and experimentation, and then actually building and testing functional hardware and/or software, as needed. MagCanica engineers contribute to and experience all aspects of the design and development cycle across a broad range of relevant technical disciplines, all the way from R&D to actual installation and field operation. We are looking for individuals who are highly flexible and can work effectively even with limited supervision. Successful candidates will have the ability to interact positively and effectively with clients and colleagues of varying backgrounds and from all over the world.

TRAINING

MagCanica provides a combination of on-the-job and formal training. The prospective candidate will likely be expected to carry out one or two projects (each lasting 1-2 months) to learn about the fundamentals of our magnetic field sensing technologies working in our San Diego office. Additionally, the candidate will interact with Mr. Ivan J. Garshelis, located in our Pittsfield, MA technical center, in order to be exposed first-hand to and learn about the fundamentals of our magnetoelastic technologies. S/he would be permanently based in the San Diego, CA area and carry out periodic formal training in various areas of interest.

THE UNIQUE EXPERIENCE WE OFFER

MagCanica is a small and highly dynamic, yet truly global company. We work on cutting-edge technology with some of the most demanding clients in the automotive, aerospace, and energy industries throughout the United States and Europe. Frequent travel throughout the US and to Europe may be expected. We offer unusually high levels of responsibility and visibility with actual clients early in one's career, and most importantly, we are a home for real engineers.

CONTACT INFORMATION

Please send your resume in PDF or DOC format to either of the following:

- Email: recruiting@magcanica.com
- Fax: +1 (858) 630-6005