



MDA Information Systems, Inc

Space Division –Integrated Systems

Mechatronics Engineer

MDA Space Division is seeking a Mechatronics Engineer to work a variety of terrestrial and space based projects.

Required:

- Knowledge of and experience with electromechanical systems
- Hands on hardware and software experience
 - Understanding of and desire to work with mechanical, electrical, and software systems
 - Basic programming skills/aptitude
- Control system experience
 - Motion control, robotics, and/or spacecraft control in particular
 - Control system design, analysis, optimization and implementation
 - PID, state-space, filters, etc...
- Ability and desire to take on many roles including
 - Mechanical design
 - Electrical design
 - Software development
 - Analysis (controls, electrical, mechanical)
 - Hardware assembly
 - Hardware integration
 - Hardware and software testing
 - Element lead

Highly desired:

- Experience with Matlab, Simulink, Labview, and C
- Experience with multiple degree of freedom robotic manipulators
 - Inverse kinematics
 - Path planning
 - Etc...
- Experience with stepper, brushed, and brushless DC motors
- Experience with motor drivers and servo amplifiers
- Experience with position and velocity sensors including resolvers and encoders
- Experience on flight projects
- Proposal writing, documentation, and presentation skills

Desired:

- Serial bus communications experience, particularly CANbus (RS422, RS232, 1553, LVDS, Cameralink, Ethernet and other motion control interfaces also desirable)
- Vision systems & algorithms
- Sensor fusion/integration
- Embedded hardware & software experience
- Real-time OS experience
- Solidworks experience
- Basic circuit/PCB design
- Cabling
- Other robotics experience including:

- Mobility
- SLAM,
- Etc...
- Spacecraft attitude determination and control and/or guidance, navigation, and control experience

Skills/Abilities/Attributes:

- Driven, excited, optimistic, pro-active
- Detail oriented
- Motivated to learn new things
- Capable of seeing the big picture
 - System engineering skills
 - Time/cost/team management & reporting skills
- Team player
 - Enjoys working with others to solve problems
 - Enjoys a variety of roles and positions
- Self motivating
 - Working without much direction
- Professional and responsible
 - Takes ownership of deliverables
 - Knows when and how to get help
- Enjoys dynamic, fast-paced work environment
 - Able to work multiple projects and tasks (shift gears, multi-tasking)
 - Completes work quickly and efficiently
 - Enjoys generally short project schedules but can also work longer flight projects

About MDA Information Systems, Inc – Space Division

MDA Information Systems, Inc Space Division is an exciting and unique company which provides robotics, structures, mechanisms, and system engineering services for spacecraft and instruments. Uniquely equipped to provide a full range of mechanical design and manufacturing services, the Company performs end-to-end product development from conception through delivery. The Company's most notable products to date are the robotic arms currently providing critical functionality on the Jet Propulsion Laboratory's Mars Exploration Rovers. Composite, metallic and damped structures have also been delivered for numerous flight programs. Services include design, analysis, fabrication, assembly and test of products for space and other demanding applications. Key competencies include mechanical and electromechanical design, dynamic and stress analysis, machining, precision assembly, and test engineering.

The Company offers excellent benefits including medical, dental, 401K, life insurance, short/long term disability and vacation and paid holiday schedules.