Engineer: Intuitive Surgical, USA

Contributed by: James Zhang, James.Zhang@IntuSurg.com

Intuitive Surgical, the global leader in surgical robots, has the following full-time in its Sunnyvale, CA headquarter - Systems Analyst (Robotics Control Engineer). Enclosed is the job description. If you have the matching qualifications, please send me your resume and links of related projects to James.Zhang at IntuSurg.com. Please start your email subject with "Full-time".

Joining Intuitive Surgical, Inc. means joining a team dedicated to using technology to benefit patients by improving surgical efficacy and decreasing surgical invasiveness, with patient safety as our highest priority.

Primary Function of Position:
Intuitive Surgical, Inc. produces the da Vinci® Surgical System, a minimally invasive highly-complex robotic surgery system that uses proprietary control software, advanced mechanics, and enhanced visualization to extend surgical technique and precision beyond the limits of the human hand.

Systems Analysts, with a vital and wide-ranging role, are primarily responsible for generating, debugging and tuning the key algorithms associated with Intuitive Surgical products, and providing technical analytic assistance to other engineering groups. The Systems Analyst will investigate and resolve design issues that impact the production process and system performances in the field. The successful candidate will have both the technical depth to resolve complex control algorithm issues and initiate improvements, and the ability to work in an interdisciplinary team to troubleshoot higher level system issues. A strong sense of shared responsibility and shared reward is required as well as a high level commitment and passion to technically challenging problems and high product reliability.

Roles and Responsibilities:
* Design, develop, implement, and test key product control and safety software algorithms including calibration and diagnostics
* Address issues at production and also in the field, perform analysis, evaluate risk, determine root causes, propose design improvements, and provide solutions
* Analyze complex medical electro-mechanical devices and servo control systems for safety and clinical risk, anticipate potential failure modes, and provide risk mitigation strategies

Skill/Job Requirements:
This position represents a core competitive capability for Intuitive. Specific requirements for the position are:
* Requires a minimum of 5 years of related experience with a Bachelor's degree; or 3 years and

a Master's degree; or a PhD without experience; or equivalent work experience
* Preferred: PhD or MS in EE, ME, Aerospace or similar field relating to robotics or mechatronics with an emphasis on Dynamic Systems and Control
* Thorough theoretical knowledge and hands-on experience in robot manipulator kinematics, dynamics, and embedded real-time control including motion and vision sensing
* Demonstrated sound engineering judgment and technical skills in real problem solving - from improving and optimizing performance levels to identifying issues, and making improvements
* In-depth knowledge of software principles, practices and techniques including testability, maintainability and scalability. The ability of writing efficient and reliable codes that really, really work on real systems is essential
* Proficient in Matlab and C/C++ is a must, and experience of other high level programming languages, e.g. Python and JavaScript, is a plus
* Demonstrated effective written and verbal communication skills with the ability to clearly present to different audiences
* Strong motivation and desire to learn. Be detail-oriented, results-driven, and able to develop an effective and reliable solution to challenging problems and drive the solution to completion and really make an impact

We are an AA/EEO/Veterans/Disabled employer.

Regards,

James Zhang, PhD
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