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Automation Engineer II

KTM Research is seeking applicants for a full time Automation Engineer II position.

About us:

KTM Research is a custom integration services company building integrated systems, tools, and machines that support our clients globally. Our focus is on machine vision and vision-guided robots for manufacturing, production, and R&D. Our clients represent many industries, from consumer electronics to research laboratories at universities to apparel manufacturers and everything in between.

KTM Research has always approached business a little differently than other system integrators. Born out of the need to help business interface with academic researchers and labs at Oregon State University, KTM Research has always been meeting gaps in the needs of its clients. This unique perspective and willingness to try new things has allowed KTM to uniquely position itself and stand out from the competition. We can talk your language and translate the world of automation and machine vision into cost and time savings, increased accuracy, and satisfied customers.

Position Overview:

This position is responsible for overseeing mechanical design, validation, and production of complex automated systems consisting of mechanical, computer, and electrical components. The Automation Engineer II is responsible for working with minimal oversight to ensure the safe, on time completion of projects. Applicants will be responsible for working with interdisciplinary teams and maintaining quality, time, and budget standards.

In addition to working with internal teams, applicants will be expected to interface with client and supplier teams to develop solutions that fit their needs. Strong written and oral language skills are important for this position as it involves working with both internal and external teams.

This is a fast-paced, diverse position, with a wide range of responsibilities and discretion within the company.

Education Requirements

This is a level 2 position requiring:

- B.S. degree in Engineering and 4+ years of related industry experience
- Graduate degree (M.S. or Ph.D.) in Engineering, Math, or Physics with 2+ years of related research or industry experience

Position Requirements

- A strong understanding of engineering, physics, and mathematics principals and their application to engineering design, manufacturing, and process development/control
- Experience in developing and validating kinematic models for robotic motion control
- Experience with .NET framework languages, primarily C#
- Experience with machine vision analysis using MVTec Halcon and Cognex In-Sight
- Experience with and knowledge of safe operation of Denso robotics, SCARA and six-axis robotic systems
- Experience programming complex motion and kinematics using Denso WINCAPS programming language
- Experience in communicating with users, other technical teams, and senior management to collect requirements, describe features, technical designs, and develop a strategy
- Experience communicating with international customers and suppliers

Desired Traits and Experience:

Mechanical Design:

- Experience with designing for rapid prototyping architectures including FDM, SLA, and SLS
- Solid understanding of equipment and component manufacturing processes

Software Development:

- Experience developing and implementing machine vision algorithms for quality control and metrology
- Experience with machine learning algorithm development and validation

Quality Control:

- Solid understanding of statistical process control and statistical analysis used in production, quality control, process development, and troubleshooting
- Understanding of techniques for failure analysis, troubleshooting and problem solving
- Design of experiments for developing an understanding of processes and interpreting results to reduce process variability and improve process quality.

Critical thinking:

- Creative thinking and strong problem solving and troubleshooting capabilities, including experience in the areas of mechanical, computer, and electrical engineering
- Ability and willingness to think outside of the box to find creative and innovative solutions to reduce costs while maintaining or improving quality, reliability, or maintainability
- Ability to learn new skills quickly with minimal oversight/guidance

Project Management/Communication:

- Project management and leadership experience working within interdisciplinary teams
- Attention to detail while maintaining a high-level understanding of the overall picture
- Effective verbal and written communication and presentation skills
- Collaborate with both internal and external stakeholders to deliver designs meeting project requirements and timelines to meet customer expectations
- Detail oriented, able to provide solutions to problems, and able to meet deadlines
- Identify and respond to risks and high-priority issues rapidly and effectively
- Experience in the design and use of project management and documentation applications within Microsoft Office Suite
- Ability to learn and understand concepts about client's processes and engage them in collaborative design
- Experience working with international customers and suppliers, especially those from Malaysia, Singapore, Hong Kong, or Taiwan

Position Responsibilities:

- System Design
  - Design hardware using SolidWorks
  - Evaluate mechanical designs using software based FEA analysis tools
  - Produce hardware drawings for customer review, manufacturing, and assembly using SolidWorks
  - Analyze and optimize designs for manufacturability (DFM) with current processes available
  - Develop and simulate kinematic models proposed motion system design analysis/validation
  - Establish system level requirements to meet customer expectations
  - Define detailed product requirements
  - Create and execute detailed, comprehensive and well-structured test plans and test cases.
  - Develop and apply testing processes for new and existing products to meeting client needs.
- Internal/External Collaboration
  - Develop, review, and monitor progress for design and production estimates and schedules
  - Develop and review manufacturing processes based on CAD designs and prior experience
  - Develop test plans to ensure products meet design targets
  - Review requirements, specifications and technical design documents to provide timely and meaningful feedback.
- Software Design/Development
  - Develop software and user interfaces using C# and .NET
  - Develop analytics tools using C++ and Python
  - Implement automated machine learning algorithms for advanced computer vision and robotic control
- Other Miscellaneous Responsibilities
  - Maintaining laboratory and shop tooling, including SLA 3D printer systems
  - Other duties as assigned by Supervisor

How to Apply:

To apply for this position, please send an email to jobs@ktmresearch.com with the following:

- In the body of the email, please include:
  - Your name, contact information (email address and phone number), and current city of residence
- Attach a cover letter in Adobe PDF (preferred) or Microsoft Word format containing:
  - Same information requested in the email body
  - Brief introduction highlighting your top three qualifications for this position
  - List up to three recent or significant projects with a description of the project, your specific involvement in the project, and an aspect of the project that you would change/do differently given the opportunity.
- Attach a detailed resume in Adobe PDF (preferred) or Microsoft Word format