Robotics Mechanical/Mechatronics Engineer

Availability: June 2018, Singapore
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Introduction

TUMCREATE is a leading research institute set up by the Technical University of Munich, Germany in collaboration with the Singapore Government. TUMCREATE has received funding and support for the SPEEDCARGO project from the Civil Aviation Authority of Singapore (CAAS) & the National Research Foundation (NRF) to develop automation solutions that will transform the air freight logistics sector. The SPEEDCARGO solution is the world’s first AI-powered robotic solution for automatic build-up and break down of aviation cargo pallets and will help Singapore lead the transformation of the logistics industry globally. The project is seeking technical experts with a passion for creating world class products, and a willingness to work in a fast paced, quality obsessed, multi-cultural global environment. On successful completion, the project will spin-off as a start-up with members of the project team having the option to join the start-up with benefits that include attractive ESOPs. Apply now if you are interested in working on cutting edge technologies, changing the world with your work and joining a dynamic start-up team.

More details on the project:

https://www.speedcargo.sg/
Background

The design of real-world robotic systems is a multi-disciplinary effort. It involves the development of mechanical elements like sensors and actuators, electronic components for connecting and controlling the mechanical elements and software for higher-level planning and process control.

This job profile focuses on development of such robotics systems from the mechanical engineering and mechatronics perspective. The job will be within an emerging deep-tech startup working towards commercialization of SPEEDCARGO - world’s first AI-powered robotic solution for automatic build-up and break down of aviation cargo pallets.

We want people who: work well in teams, can brainstorm big ideas, work in new technology areas, are able to drive a concept into a prototype, and can work collaboratively with a wide range of disciplines. Starting with a strong mechanical background, be willing to become a quick expert in a new area and quickly build new prototypes.

Objective & Tasks

1. Defining technical specification of the robot system, grippers and other peripheral sensors/actuators
2. Evaluation, selection of components for mechanical design and systems integration
3. Design, construction and testing of innovative actuation systems, structures & gripping mechanisms for material handling/manipulation
4. Robot kinematics and dynamics
5. Construction and integration of actual working systems
6. Integration of industrial robotic system that involves software, mechanical and electronics subsystems

Mandatory Requirements

1. Since the project will focus on real world deployment of industrial robotics system we require the candidate to have minimum 2-5 years’ experience working on real world industrial/robotics projects (preferable in Industry). Candidates with only lab/research experience won’t be considered.
2. PhD/Master/Bachelor’s degree in mechanical engineering/mechatronics from a reputed university

What we expect from you

- At least 2 years of relevant industrial experience
- Drive implementation of technology solutions within the internal team
- Knowledge in applied & practical mechanics
- Experience prototyping & testing mechatronic components
- Working experience in mechatronics and software systems integration
- Experience in CAD/CAM (Solidworks/CATIA), FEA (ANSYS), Matlab, Simulink
- Experience working with industrial robots is a plus
- Experience in low level control & fieldbuses is a plus
- Familiarity with industrial standards and practices

What we offer you

- An international and multidisciplinary working environment
- Opportunity to work on a deep-tech robotics system with challenging tasks and real-life relevance
- Exposure to state-of-the-art technology

PLEASE NOTE THAT ONLY SHORTLISTED CANDIDATES WILL BE CONTACTED

ABOUT TUM CREATE

TUM CREATE innovates. We are developing cutting-edge electric vehicle technologies and pioneering the Ultimate Public Transport System concepts for the growing transport and sustainability challenges in fast-growing tropical megacities. Germany’s Technical University of Munich (TUM) and Singapore’s Nanyang Technological University (NTU) — two world-leading engineering universities — have come together to collaborate on this ambitious joint research programme. It is funded by Singapore’s National Research Foundation.