Computer Vision Engineer for Real-World Robotic System

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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 advanced perception systems, artificial intelligence based decision making, 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 perspective of advanced perception system using beyond state of the art computer vision techniques. The job will be within an emerging deep-tech startup working towards commercialization of SPEEDCARG - world’s first AI-powered robotic solution for automatic build-up and breakdown of aviation cargo pallets.

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Objective & tasks

Successful candidate will be working in a team to primarily integrate software components of a large robotic system that includes an industrial robot, actuating end effectors, vision sensors, high level robot control and intelligent systems. There will be potential to do development in a wide range of these areas. The primary responsibility of the candidate will be development of advanced computer vision software. In addition candidate will require collaborating closely with the rest of the group in optimizing the process flow and troubleshooting problems that arise during testing in a resourceful manner.

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 computer vision for real world systems (preferable in Industry). Candidates with only lab/research experience won’t be considered.
2. PhD/Master/Bachelor Degree in Computer Science from a reputed University
3. Strong fundamentals in computer science and mathematics related to Computer Vision. Candidates with only knowledge of Machine Learning (without the mathematical basis) will not be considered.

What we expect from you

- Relevant experience in 3D development, Computer Vision and Image Processing
- Statistical analysis, State Estimation (Kalman Filters, Particle Filters) and Machine Learning (SVM, Decision Trees, Neural Networks).
- Familiarity with ROS, C/C++, Java, Python, Linux, git, OpenCV, PCL, OpenGL, MATLAB
- GUI and Mobile App Development
- Ability to work independently

What we offer you

- An international and multidisciplinary working environment
- Opportunity to work on deep-tech robotic system
- Challenging tasks with real-life relevance

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.