Software developer in Cloud Robotics for health care

The IBCN (Internet Based Communication Networks and Services) research group performs research in the area of next-generation intelligent distributed systems. Besides fundamental research, we are active in projects at national and European level with industrial and academic partners.

We have currently a job offer for a full-time software developer to support our novel research track on cloud robotics.

Cloud Robotics in health care

Providing the missing link between the digital and physical world, connected smart objects have tremendous potential to improve our Quality of Life. In the future, people will be surrounded by a swarm of smart devices, having moderate computational power and operating semi-autonomously and in real-time on sensor data and context information that is provided by the cloud. In this context; we focus on the non-industrial service robots only start to pervade in our activities of daily living.

You will be active as a software developer in the ICON WONDER project. This research project, in collaboration with the industry, aims to improve the Quality of Life of residents with dementia in nursing homes. In turn, this should result in a decrease of manifestations of behavioral disturbances (BD), such as aggression, wandering behavior.

This research project is built on two technological pillars. First, we will investigate how manifestations of BD can be automatically detected via sensors, wearables and other context information. We will research decision algorithms for setting up the correct intervention for care staff or humanoid Zora robots (www.zorarobot.be). Second, we will extend the capabilities for the Zora robot to operate on a nursing home floor. Today, Zora is manually activated to execute a predefined sequence of instructions. In the ICON project, we will enable Zora to work semi-autonomous, based on contextual information and walk from one resident to another to start personalized dialogues.

Job Profile

- You are responsible for solid and valid implementations of the following Zora (Nao) robot functionality: energy-efficient robot-cloud communication protocol, indoor localization and dynamic path planning (e.g. to avoid people), multi-robot task scheduling
- You study the state-of-the-art in the above mentioned domains and provide implementations of these that are specifically adapted to the use cases in the project.
- You are responsible for building solid and validated proof of concepts encompassing robots, sensors and cloud infrastructure.
- You will validate the proof of concepts in real-life settings.
- You communicate with the project partners and present research results to a broader community.

Candidate profile

- You have a master degree in computer science, informatics or electrical engineering. Last year students are also welcome to apply if they are expected to graduate before October 1st.
• You have interest in Nao robot implementations, cloud technologies and algorithmic implementations.
• You have analytical skills, you are well-organized and are able to autonomously execute the tasks that are assigned to you.
• You have good communication skills in English. Good knowledge of the Dutch language is an asset, since you will communicate with
• You have proven experience in software development (e.g. student projects or master thesis successfully completed and in which an important software development component was required).

We offer a very challenging position in an inspiring, flexible and very dynamic environment. You will join a young and enthusiastic team of developers, researchers, post-docs and professors. You will receive a competitive salary.

This full-time position is available immediately. This position is primarily focused on hands-on state-of-the-art implementation and is not oriented towards a PhD. However, if during the project the interest in a PhD arises by the candidate, the opportunity can be discussed.

Candidates should send their CV and a motivation letter to martine.buysse@intec.ugent.be.
For more information on this position; you can contact pieter.simoens@intec.ugent.be