The Singtel Cognitive and Artificial Intelligence Lab for Enterprises (SCALE@NTU) is a S$42.4 million and 5-year collaboration jointly established by NTU, Singtel and the National Research Foundation Singapore in December 2017 to support Singapore’s transformation into a Smart Nation and help enable the country’s digital economy. Read more at [http://scale.ntu.edu.sg](http://scale.ntu.edu.sg).

SCALE@NTU would like to invite passionate researchers to join us in the R&D projects of AI and related domains. Singaporeans and Singapore PR holders are welcome to apply.

If you are interested in any of the following positions, please send your CV to the relevant Principal Investigators (PI) as indicated, by 15 June.

**Research Fellow / Research Associate / Research Assistant**

Multi-agent path finding (MAPF) is a challenging problem with numerous real-life applications. MAPF deals with the problem of finding collision-free paths for teams of agents to reach their respective target locations in real time with consideration of various types of constraints. MAPF is prevalently applied in transportation (autonomous aircraft towing vehicles), warehouse management (automated warehouse systems), robots (multi robots task and path planning), video games and so on. The research assistant is expected to design/implement/test the algorithms for a particular version of the MAPF problem and to develop a prototype to demonstrate the solutions.

**Job Requirements:**

- Relevant degree in Computer Science/Engineering with good academic records.
- Strong programming skills.
- Knowledgeable or interested in one or more of the following areas: artificial intelligence, data analytics, algorithm design and analysis, modeling and simulation.

**Principal Investigator (PI):** TANG Xueyan (Assoc Prof) [ASXYTang@ntu.edu.sg](mailto:ASXYTang@ntu.edu.sg)
**Project Officer/Research Associate/Research Fellow**

The candidate is to conduct research and development work in computer vision, including visual object tracking, action recognition, saliency determination, and the related image processing tasks; he/she is expected to use machine learning approaches to achieve the tasks (or parts of the tasks).

**Job Requirements:**
Applicants should have (or expected to have) a BEng/Master/PhD degree in a relevant discipline (computer science and engineering, electronic engineering, telecommunications engineering, applied mathematics, etc.), preferably with good research track record. He or she also needs to good technical reading, writing and programming skills.

**Principal Investigator (PI):** LIN Weisi (Prof) WSLin@ntu.edu.sg

**Project Officer**

To develop an indoor positioning system using computer vision algorithms on a mobile robot.

**Job Requirements:**
- Relevant degree in Computer Science/Engineering.
- Embedded systems, micro-controller, GPU programming, C/C++, python.
- Experience with computer vision and machine learning algorithms.

**Principal Investigator (PI):** LAM Siew Kei (Asst Prof) ASSKLam@ntu.edu.sg

**Research assistant/Project Officer**

The project consists of two parts:

- Determining the characteristics of someone lost, so that prediction models and interventions can be conceptualized. We will develop a Multidimensional AI-based Prediction Framework for “Lost & Found” Cases (MAIDON) that not only predicts when an elderly is about to get lost but also suggest/predicts the corrective interventions based on each case.

- Location service. Localisation service has open up a wide variety of services. However, indoor localization is still in its infancy. Current technology using Wi-Fi, LTE, and Bluetooth has their limitation in terms of accuracy. Bluetooth Low Energy, has attracted much attention lately in indoor localisation due to its low energy consumption and cost. The project will take a different approach to address indoor localization by combining the different localization technology and extending them with “spatial crowdsourcing”. We are using Machine Learning techniques to get better prediction.

**Job Requirements:**
- The staff would be expected to work independently and innovatively. He/she should have good grounding in Machine Learning techniques and good programming skills especially on Android devices.

- The person must also have good communication skills (written and spoken) as he/she will be engaging with healthcare giver and others.

**Principal Investigator (PI):** LEE Bu Sung, Francis (Assoc Prof) EBSLEE@ntu.edu.sg
**Project Officer/Research Engineer**

The project officer will be conducting research for a project in machine learning for spatial data. The example research topics include, traffic speed and volume forecasting, personal trajectory data analysis, data driven traffic congestion analysis, spatial data management.

The project officer is expected to do extensive amounts of software coding on the latest research platforms, build and showcase research demo systems, conduct data collection and processing, and be involved in writing research papers. The individual should have high integrity, be self-motivated, independent and proactive, and should work well in teams.

**Job Requirements:**
The candidate is expected to have a good Bachelor’s degree in computer science or related discipline, with strong mathematical ability and programming skills in C/C++ and Python. The candidate must be able to communicate well in English. Familiarity with the latest deep learning platforms is preferred. Previous project experience or publications in a related topic is not expected, but will be a bonus. Candidates who would be interested in doing a PhD is a plus.

**Principal Investigator (PI):** CONG Gao (Prof) gaocong@ntu.edu.sg

**Project Officer**

The project officer will be conducting research for a project in computer vision-based understanding of human behaviour. The broad application scenario is a hospital setting, where AI sensing systems and autonomous robots can assist medical workers in tending to patients. Computer vision can be used for recognizing and monitoring the actions and activities of patients, as well as determining whether appropriate and prescribed activities have been followed. Research is also expected to lead to progress in inferring more hidden aspects such as emotional states. These enabling technologies can potentially provide 24/7 autonomous monitoring of patients, helping to reduce workload and fatigue of medical workers.

The project officer is expected to do extensive amounts of software coding on the latest research platforms, build and showcase research demo systems, conduct data collection and processing, and be involved in writing research papers. The individual should have high integrity, be self-motivated, independent and proactive, and should work well in teams.

**Job Requirements:**
The candidate is expected to have a good Bachelor’s degree in computer science or related discipline, with strong mathematical ability and programming skills in C/C++ and Python. The candidate must be able to communicate well in English. Familiarity with the latest deep learning platforms is preferred. Previous project experience or publications in a related topic is not expected, but will be a bonus.

**Principal Investigator (PI):** CHAM Tat Jen (Assoc Prof) ASTJCham@ntu.edu.sg