Singapore-MIT Alliance for Research and Technology Centre

SMART is a major new research enterprise established by the Massachusetts Institute of Technology (MIT) in partnership with the National Research Foundation of Singapore (NRF). SMART serves as an intellectual hub for international research collaborations, not only between MIT and Singapore, but also involving researchers from the region and beyond. At SMART, we identify and carry out research on critical problems of societal importance. SMART is a magnet attracting and anchoring global research talent, while simultaneously instilling and promoting a culture of translational research and entrepreneurship in Singapore. Five interdisciplinary research groups (IRGs) have been established to date: BioSystems and Micromechanics (BioSym), Centre for Environmental Sensing and Modeling (CENSAM), Future Urban Mobility (FM), Infectious Diseases (ID) and Low Energy Electronic Systems (LEES)

Senior Postdoctoral Associate/Research Scientist Position in Simulation, Behavioral Modeling and Real-Time Transportation System Management

Future Urban Mobility Interdisciplinary Research Group

Project Overview

SMART-FM is involved in several research projects ranging from innovative approaches to activity-based modeling, using smartphones and GPS loggers in transportation research, real-time transportation system prediction, real-time optimization, autonomous and flexible mobility on demand systems, travel behavior analysis through app-based surveying methods, and the integrated simulation of various mobility-sensitive behavioral models with state-of-the-art simulators to predict impacts of mobility demands on transportation networks, services and vehicular emissions.

The research scientist/senior-postdoctoral associate will use combined knowledge of optimization, simulation and behavioural modeling to contribute to the broad range of FM research projects with special focus on two ongoing projects, 1) SimMobility: a simulation platform developed at SMART-FM that aims to serve as the nexus of Future Mobility research evaluations. It integrates various mobility-sensitive behavioral models with state-of-the-art scalable simulators to predict the impact of mobility demands on transportation networks, intelligent transportation services and vehicular emissions. The platform enables the simulation of the effects of a portfolio of technology, policy and investment options under alternative future scenarios; 2) DynaMIT2.0, a multi-modal multi-data source driven, simulation-based short-term traffic prediction and network control system developed by SMART-FM. The system contains a collection of data modules and algorithms including coupled demand and supply simulators that estimate and predict network states in real-time.

The research team is led by Prof. Moshe Ben-Akiva, Prof. Chris Zegras and Prof Joseph Ferreira from MIT.

Responsibilities

We are seeking a Senior Post-doctoral associate/Research Scientist as part of the Singapore MIT Alliance for Research and Technology (SMART) Future Urban Mobility (FM) project. The candidate...
is expected to play a main role in managing and coordinating the research group and in taking the lead of all concerned research and project activities. The job scope are as follow:

- Leading research activities, based on the design of management and operations plans, ensuring the proper achievement of stated objectives and milestones;
- Leading project activities, coordinating work package leaders and taking the lead of activity tasks, including financial management of the projects;
- Coordinating research groups, including supervision of post-doc researchers, doctoral and master students, research and software engineers;
- Identifying research funding sources and preparing/submitting project proposals;
- Reporting to projects principal investigators (PIs).
- Completing technical reports, publishing in peer-reviewed journals, presenting research at domestic and international conferences

Requirements

We are looking for outstanding, motivated, experienced and proactive candidates, with strong backgrounds in relevant areas for the project including:

- a Ph.D. in transportation, behavioural modelling, simulation or a related field;
- expertise in discrete choice modeling, agent based simulation, dynamic traffic assignment;
- proven project and research management expertise

This position will be based at SMART-MIT centre on the campus of the National University of Singapore (NUS) in Singapore

To apply, please visit our open positions website at: [http://smart.mit.edu/jobs-at-smart/current-open-positions.html](http://smart.mit.edu/jobs-at-smart/current-open-positions.html). Interested applicants will have to submit their full CV/resume, cover letter, copies of three most significant publications and a list of three references (to include reference names and contact information) via the stated website. We regret that only shortlisted candidates will be notified.