PhD Student (EDB-IPP Contract)

Company: Robert Bosch (SEA) Pte Ltd
11 Bishan Street 21, Singapore 573943

Designation: PhD Student

Job Period: EDB-IPP Contract (Starting January 2026)

Job Description

As a part of our global research unit, our Singapore team's focus is on the domain of sustainability and wellbeing in residential homes, with a focus on HVAC control. Our team explores the use of sensors systems, AI and control principles to enhance the thermal comfort and wellbeing of people at home while minimizing energy consumption for cooling.

The scope of this research is to use collected sensor data from real users and monitor their behavior across the day, along with key physiological information and indoor/outdoor environmental data. This will be used to characterize the needs of each user in terms of comfort and wellbeing; this information will finally help to develop advanced controls for residential AC to provide an optimal environment. The main focus will be on the bedroom environment and how to ensure optimal sleep quality, while other indoor areas may be evaluated for control optimization opportunities.

This position offers an exciting opportunity to conduct cutting-edge research in developing and validating behavior-based advanced controls for HVAC systems. The successful candidate will be working at world-class laboratories in NUS and Bosch.

Basic Qualifications:

- Singaporean or PR (to be eligible for EDB-IPP program).
- Bachelor's or master's degree in computer science or engineering, Mechanical/Electrical Engineering (w/ AI and programming background).
- Fulfill the National University of Singapore (NUS) PhD programme requirements.
- Excellent written and verbal communication skills.
- Curious, self-motivated, team player, and a passion to tackle real-world problems via research.
- Relevant research experience in the field of **HVAC, artificial intelligence, data science, control engineering, building sustainability.**

Preferred Qualifications:

- Knowledge of air conditioning systems, modeling and control principles.
- Awareness of recent research and development methods about sustainability of the build environment, thermal comfort, energy management.
- Experience with deep learning frameworks such as Pytorch or Tensorflow and machine learning libraries such as scikit-learn.
- Experience with IoT hardware and sensors data collection & analysis, cloud computing platforms.
- Strong academic record, with at least one publication in top-tier conferences or peer-reviewed journals (preferred).

- Fresh degree holders with excellent academic results are also encouraged to apply.