

5 Research Assistants in Digital Twin Modelling and Computer Model Simulation

Vin University Center for Environmental Intelligence, Hanoi, Vietnam

Context

The occupations proposed in this call will take place within the Vin University international laboratory in Hanoi (<https://cei.vinuni.edu.vn>) which undertakes research on the use of computer models and simulation for the air quality and transportation in large cities in Vietnam. Vin University is conducting a number of exciting projects from 2023 and expect to end in 2025, among with the development of the Digital Twin Model and GAMA modeling platform (<http://gama-platform.org>) and **we seek excellent candidates in computer science, data science or AI to join us for Bachelor or Master Research assistants.**

Topics

Six general topics are covered this year in the lab in collaboration with **VinFast, Vinbus and Vin Green**. They can be tailored to build subjects that fit the needs and calendar of the interested candidates:

1. Measuring CO2 and PM2.5 levels, **AI and ML tools** will be used to forecast congestion and emissions under different scenarios.
2. Designing and evaluating economic mechanisms such as congestion pricing for reducing emissions of these pollutants by motivating public transportation, reducing idling, promoting higher fuel efficiency, and transitioning into electric vehicles by **using AI and machine learning tools from GAMA**.
3. Simulating future transportation scenarios for a transportation policy suite that encourages long-term sustainable mobility preferences in personal travel and freight operations
4. Conduct a privacy-preserving AI-enabled study of stakeholders (users and transportation providers). In addition to survey and focus group methodology, we will use **ML and statistical analysis tools** to generate insights on public and industry opinion, adoption viability, and incentives needed to induce behavioral changes in mobility.
5. Conduct simulation and optimization of electric charges to promote switching to electric vehicles
6. Conduct research and simulation of population health in each scenarios to induce behavioral changes in order to reduce air polluted affection on human health

Requirements

An interest in modeling and simulation of complex systems, data science or AI is important. Software development skills are required, knowledge of various computer languages would be appreciated, especially Java for development on the GAMA platform. Fluency in English is required

Project duration

The candidates will be hosted full-time in Vin University laboratory during the project (which can last between 06 to 24 months, starting anytime in 2023, with possibilities of extensions). **A financial support (Research assistant allowance) will be provided.**

Contact

If you are interested and would like to apply, please send a CV and a cover letter to cei@vinuni.edu.vn. All applications will be processed on a rolling basis (no specific deadline) and interviews will be held with the most interesting profiles.