Research Fellow (Machine Learning for Storm Surge
Prediction) - VW6
Singapore Institute of Technology

Job Title	Research Fellow (Machine Learning for Storm Surge Prediction) - VW6
Department	Engineering
Institution	Singapore Institute of Technology
	Singapore, , Singapore
Date Posted	Oct. 17, 2023
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Research Scientist/Associate
Academic Field(s)	Naval Architecture & Marine Engineering
	Computer Engineering
	Computer Science
Job Website	https://careers.singaporetech.edu.sg/cw/en/job/498502/research-fellow-machine-learning-for-storm-surge-prediction-vw6
Apply By Email	

Job Description

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Job no: 498502
Department: Engineering
Contract type: Contract
Apply now

As a University of Applied Learning, SIT works closely with industry in our research pursuits. Our research staff will have the opportunity to be equipped with applied research skill sets that are relevant to industry demands while working on research projects in SIT.

The primary responsibility of this role is to work on a data-driven model to predict occurrences of storm surge in Singapore. In this project, you will be analyzing raw data (such as tidal gauge data, near shore surface current data, windspeed data …) around the coasts of Singapore, and identifying strong features in Singapore's context that are deeply correlated with storm surge heights. At the end of the project, the team will deliver a data-driven model, written in python, that can accurately and quickly predict whether a storm surge will occur around the coasts of Singapore by monitoring sensors and weather forecast data.

Key Responsibilities

- Participate in and manage the research project with Principal Investigator (PI), Co-PI and the research team members to ensure all project deliverables are met.
- Meeting the project deliverables within the project timeframe, which consists of the following responsibilities:
- Performing data analysis (on actual or synthetic data) on local and regional weather, tidal gauge and near shore surface current data on its correlation to occurrences of storm surges, or storm surge height
- Performing feature design and engineering in the context of Singapore's coast to build strong features that can be used to predict occurrences of storm surges
- Implement and test different machine-learning models to evaluate their performance in the task of storm surge prediction.
- Testing and assessing the implemented model based on prediction accuracy and effective forecasting time.
- Building a testbed model that can be integrated with local weather sensors, weather forecast, tidal or surface current sensor sensors for storm surge prediction.
- Assists in co-supervision of Final Year Projects (FYP) or capstone projects students together with the project PI

- Assists PI in drafting of reports, conference proceedings and journal articles based on the outcome of the projects
- Prepares and shares fortnightly report of results from project work with PI
- Support and coordinate procurement and maintenance of the software/hardware under the charge of the PI
- Carry out Risk Assessment, and ensure compliance with Work, Safety and Health Regulations.
- Work independently, as well as within a team, to ensure proper operation and maintenance of equipment.

Job Requirements

- Have relevant competence in python programming and the relevant data analytics software and platforms like JupyterLab, SciPy ecosystem, scikit-learn libraries, tensorflow libraries.
- Knowledge in hydrodynamics wave modelling will be a bonus
- A good Bachelor, Masters or Ph.D degree in Data Science or Computer Engineering or Marine Engineering from a reputable university.
- Fluent verbal and written communications.

Key Competencies

- Good self-discipline and motivated to deliver
- Show strong initiative and take ownership of work
- Able to build and maintain strong working relationships with people within and external to the university.
- Self-directed learner who believes in continuous learning and development
- Proficient in technical writing and presentation
- Possess strong analytical and critical thinking skills

Apply now
Advertised: 17 Oct 2023 Singapore Standard Time
Applications close: 05 Jan 2024 Singapore Standard Time

Contact Information

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Contact

Singapore