Research, Informatics and Graduate Studies

PhD Positions in Turbulence prediction from sparse observations (GS-2024007) – Group of Assoc. Prof. Vikrant Gupta

Description
The Mechanical Engineering (Robotics) Program (group of Vikrant Gupta) is looking for a motivated PhD candidate to conduct research on turbulence prediction in practical situations using data assimilation and machine learning techniques. Contract duration: 3 + 1 years.

Project Details
The study of fluid mechanics is undergoing a transformation due to recent advancements in measurement techniques and computational power. Data-driven methods can now be utilized to forecast increasingly complex turbulent flows. However, sparsity of measurements requires knowledge incorporation for predicting practical systems. This project involves using governing equations and model-reduction tools for predicting turbulence from highly sparse observations. The project recently received a reputable grant from NSFC, China.

The student will work in collaboration with other team members and have access to research facilities at Guangdong Technion and Technion-IIT, Israel. The student will be trained in big data and state-of-the-art computational tools. International students are welcome. The tuition will be fully covered and a generous stipend is offered (per month RMB 7000 in Shantou and $ 2167 in Haifa). The degree is from Technion – Israel Institute of Technology, which is among the most reputed universities in the world, and we maintain the same qualification standards at Guangdong Technion.

Keywords
Forecasting, Turbulence, Data assimilation, Machine Learning

Selection Criteria

- Master's degree (or an excellent Bachelor's degree) in Engineering or Science (essential)
- Basic understanding of the Navier-Stokes equations and machine learning (essential)
- Experience in data assimilation (desirable)
- Good communication skills, good command of English (essential)
- Ability to work independently as well as in a team environment (essential)
- Ability to author scientific reports and co-author scientific publications (essential)
- The PhD candidate must fulfill the requirements for admission to the Technion Graduate School and needs to comply with its regulations leading to the PhD degree: https://graduate.technion.ac.il/en/prospective-students/

Application

- Application deadline: 31 December 2024 (full consideration), 28 February 2025
- Send required documents to: vikrant.gupta@gtiit.edu.cn
- Please click here for the details.

Position
PhD

Program
Mechanical Engineering (Robotics)

Contact
Assoc. Prof. Vikrant Gupta

Email: vikrant.gupta@gtiit.edu.cn

Web Page Link

Application Deadline
28 February 2025

Date posted
September 10, 2024

Location
Guangdong Technion – Israel Institute of Technology (GTIIT), China & Technion-Israel Institute of Technology, Israel.

Fees & Finance

How to Apply

Contact
Assoc. Prof. Vikrant Gupta

Phone: +86 (754) 8807 7226

Email: vikrant.gupta@gtiit.edu.cn

Web Page : https://www.gtiit.edu.cn/en/viewStaff.aspx?staffNo=1290