

PhD/MPhil Positions in Structural and Construction Engineering (Spring/Fall 2027)

Position description

Multiple PhD/MPhil positions are available in the Department of Civil and Environmental Engineering at The Hong Kong University of Science and Technology (HKUST), Clear Water Bay, Hong Kong. Those with a strong passion to develop and apply smart technologies to address structural and construction engineering problems are strongly encouraged to apply.

Areas of interest include, but are not limited to:

- Computer vision and point cloud-driven structural damage detection.
- Computer vision and multimodal reasoning for automated engineering drawing parsing.
- Construction automation, including site-specific monitoring and robotic installation methods.
- Design and assessment of robot-friendly modular buildings under earthquake and wind loads.

Requirements

Prospective students should have a Bachelor's or Master's degree in civil engineering, mechanical engineering, computer science, robotics, or related disciplines. Preference will be given to students with prior knowledge and experience in: 1) development of computer vision, vision-language models, point cloud models, multimodal reasoning for engineering applications using PyTorch, OpenCV, Open3D, Hugging Face, etc., 2) Reinforcement learning/VLA-driven robot simulation and physical testing, such as UAVs/UGVs, robotic arms, cranes, using ROS, Isaac Sim, MuJoCo, ManiSkill, etc., 3) data processing software such as AutoCAD, Blender, Rhino3D, IfcOpenShell, Unity, and Unreal Engine, 4) structural analysis software such as OpenSees(Py), Abaqus, ANSYS, and MATLAB, as well as hands-on quasi-static, shake table, and hybrid simulation tests, etc. Successful candidates will be fully funded for 4 years, while exceptional candidates will be nominated for the HKPFS competition.

How to apply

Interested students can send a copy of their CV and transcripts to cexiaopan@ust.hk, with the subject title "Prospective PhD/MPhil student 2027 – [your name]". More information can be found at [HKUST Civil Engineering Postgraduate Programs](#) and [HKUST Postgraduate Application](#).

About the supervisor

Dr. Xiao Pan is an Assistant Professor at HKUST. Details can be found at: <https://ce.hkust.edu.hk/people/xiao-pan-panxiao>; or <https://cexiaopan.people.ust.hk>.

About HKUST

HKUST is a leading global research university known for its cutting-edge innovation, academic excellence, and dynamic multicultural environment, combining world-class teaching and research facilities with a focus on science, technology, engineering, business, and humanities. The University ranks 33rd in the QS World University Rankings 2027. The Department of Civil and Environmental Engineering covers a broad spectrum of disciplines, including structural engineering, geotechnical engineering, transportation, water resources, environmental engineering, and construction management, which are committed to pioneering developments in smart cities, next-generation infrastructure, green construction, hazard prevention, and energy and the environment.