HKU Summer Research Programme 2024

List of Potential Mentors

Faculty / Interdisciplinary Area: **Faculty of Engineering**

	Department / Discipline	Title	Last Name	First Name	Contact Email	Personal Homepage	Research Area(s) / Topic(s)	Remarks
1	Civil Engineering/Geotechnical Engineering	Dr	CHOI	Clarence Edward	cechoi@hku.hk	https://www.cechoi.org/	Mitigation of debris flows; Sustainable land reclamation	My group solves engineering challenges related to sustainable development and mitigation of natural hazards owing to the effects of climate change.
2	Civil Engineering/Transportation Engineering	Dr	KE	Jintao	kejintao@hku.hk	https://sites.google.com/view/kejintao	AI for transportation; transport economics	
3	Civil Engineering/Geotechnical Engineering	Dr	KWOK	Chung Yee	fiona.kwok@hku.hk	https://sites.google.com/site/fcykwok	Computational mechanics of geotechnical and geological processes; Micromechanics of particulate systems, their internal fabric, strength relationships and force transmissions; Engineering analysis and modelling of powders and grains subject to various loading conditions and stress paths; Time effects in soil and rock, and their influence on construction activities; Debris flow and grain segregation; Evaluation of embodied energy and carbon of geotechnical engineering constructions	
4	Civil Engineering/Infrastructure Project Management	Dr	LI	Xiao	shell.x.li@hku.hk	https://www.civil.hku.hk/pp-lix.html	Construction informatics, Construction Industrialization, Advanced AI & robotics in industrialized construction	
5	Civil Engineering/Traffic and Transportation Engineering	Professor	SZETO	Wai Yuen	ceszeto@hku.hk	https://www.civil.hku.hk/ceszeto/	Transportation; Environmentally sustainable network design; Public transport, taxi, and bicycles; Shared mobility; Transport logistics; Transport network reliability and resilience; Transport network pricing and optimization	
6	Civil Engineering/Structural Engineering	Dr	WANG	Jiaji	cewang@hku.hk	https://wangjiajithu.github.io/hku/	Physics-informed machine learning for intelligent structural engineering; Data-driven and physics-informed operator learning for solving partial differential equations; Computer vision; Steel and concrete composite structures; Generative structural design; AI for structural health monitoring	We developed AI solver to solve mechanics problems faster than Finite Element solver.
7	Civil Engineering/Structural Engineering	Dr	YE	Hailong	hlye@hku.hk	https://www.civil.hku.hk/pp-yeh.html	Construction Materials; Concrete Technology; Green Cement	

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8	Civil Engineering/Structural Engineering	Dr	YU	Jing	ceyujing@hku.hk	https://www.civil.hku.hk/pp-yuj.html	High-Performance Fiber-Reinforced Concrete; Smart and Multi-Functional Concrete; Green and Low-Carbon Concrete; Modular Integrated Construction; Marine Construction Materials	
9	Computer Science	Dr	HUANG	Zhiyi	zhiyi@cs.hku.hk	https://www.cs.hku.hk/~zhiyi/	Theoretical Computer Science, Sequential Decision-Making Under Uncertainty, Algorithmic Game Theory	
10	Computer Science	Dr	ZHAO	Hengshuang	hszhao@cs.hku.hk	https://www.cs.hku.hk/~hszhao	Computer Vision, Machine Learning, Artificial Intelligence	
11	Computer Science	Dr	WU	Chenshu	chenshu@cs.hku.hk	https://cswu.me/	Internet of Things, AIoT, Mobile Computing, Ubiquitous Computing	
12	Electrical and Electronic Engineering	Dr	LI	Can	canl@hku.hk	http://canlab.hku.hk/	A.I./Machine learning hardware； Novel application, circuit, device, and their co-design； CMOS compatible memristor device integration and nanofabrication	
13	Electrical and Electronic Engineering	Dr	CHEN	Xiaohao	xchen@eee.hku.hk	https://xianhaochen.net/	Wireless networking for computing/machine learning/ Edge computing/ Edge intelligence (e.g., edge federated/split learning)/Machine learning for wireless networking/ Reinforcement learning for network optimization/ Vehicular networking/ Connected and autonomous vehicles (CAVs)/ Incentive design for wireless networks/ Auction design/ Game theory	
14	Electrical and Electronic Engineering	Dr	WANG	Yi	yiwang@eee.hku.hk	www.eeyiwang.com	Big data analytics in energy systems, multi-energy systems	
15	Electrical and Electronic Engineering	Dr	NGAI	Cheuk Han Edith	chngai@eee.hku.hk	https://www.eee.hku.hk/~iotlab/EdithNgai.html	Federated Learning/ Internet of Things (IoT)/ Smart Health/ Wireless Sensing and Mobile Edge Computing	
16	Electrical and Electronic Engineering	Dr	YANG	Yanchao	yanchaoy@eee.hku.hk	https://www.eee.hku.hk/people/yanchaoy/	Embodied AI, Computer Vision & Graphics, Representation Learning, Information Theory, Robotics & Human-Computer Interaction	

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17	Electrical and Electronic Engineering	Dr	WANG	Zhongrui	zrwang@eee.hku.hk	https://www.eee.hku.hk/~zrwang/	AI on processing-in-memory accelerator	
18	Electrical and Electronic Engineering	Professor	TSIA	Kevin KM	tsia@hku.hk	https://www.eee.hku.hk/people/tsia/	Ultrafast real-time optical microscopy and spectroscopy, e.g. fluorescence, Raman; Laser microsurgery for endoscopic applications; novel optical devices for biomedicine; silicon-based photonic devices; optical interconnect.	
19	Electrical and Electronic Engineering	Professor	WANG	Han	hanwang6@hku.hk	https://www.eee.hku.hk/people/h-wang/	AI Hardware, Neuromorphic Computing, Integrated Nanoelectronics Device Technology, Non-volatile memory, Semiconductor Electronic Materials, Semiconductor Communication and Sensing Devices.	
20	Electrical and Electronic Engineering	Dr	WANG	Feifei	feifwang@hku.hk	https://www.eee.hku.hk/~ffwang/	Biomedical Imaging, Super resolution imaging	
21	Electrical and Electronic Engineering	Dr	LIU	Xihui	xihuiliu@eee.hku.hk	https://www.eee.hku.hk/people/xihui-liu/	Computer vision, machine learning, and artificial intelligence, with special emphasis on multimodal AI, vision and language, open-world recognition, visual synthesis, and generative models	
22	Electrical and Electronic Engineering	Dr	TAN	Chaoliang	cltan@hku.hk	https://www.tan-lab-cityu-hk.com/	Electronics and Optoelectronics based on 2D materials.	
23	Electrical and Electronic Engineering	Dr	QI	Xiaojuan	xjqi@eee.hku.hk	https://xjqi.github.io/	Computer vision, deep learning, AI, AIGC, scene understanding	
24	Electrical and Electronic Engineering	Professor	WONG	Kenneth Kin Yip	kywing@eee.hku.hk	https://www.eee.hku.hk/people/kywong/	Novel optical generation; Photonic parametric processing; Ultrafast optical fiber communication and imaging (spectroscopy, microscopy and tomography).	
25	Electrical and Electronic Engineering	Dr	XIANG	Chao	cxiang@eee.hku.hk	https://chao-xiang.github.io/research.html	PIXlab focuses, Heterogeneous integration, Laser soliton microcombs, Narrow-linewidth lasers, Silicon nitride photonics, Copackaged silicon photonics and electronics	
26	Electrical and Electronic Engineering	Dr	ZHAO	Leo Tianshuo	tszhao@hku.hk	https://www.eee.hku.hk/people/tszhao/	Nanomaterials and nanostructures fabrication, Optical and optoelectronic sensors, Photo(electro)chemical devices, biocompatible and flexible devices.	

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27	Industrial and Manufacturing Systems Engineering	Dr	ZHANG	Fangni	fnzhang@hku.hk	https://fangnizhang.github.io/	Smart Transportation and Logistics	
28	Industrial and Manufacturing Systems Engineering	Dr	KUO	Yong-Hong	yhkuo@hku.hk	https://www.imse.hku.hk/people/y-h-kuo	discrete optimization, data science, virtual reality, transportation, healthcare systems	
29	Industrial and Manufacturing Systems Engineering	Dr	HUANG	Wenjie	huangwj@hku.hk	https://sites.google.com/view/huangwenjie	Robust Optimization, Data-driven Decision-Making, Reinforcement Learning	
30	Mechanical Engineering	Dr	CHOW	Philip	pcyc@hku.hk	www.pcychow.com	Material physics, ultrafast optics, solar cells	
31	Mechanical Engineering	Professor	FANG	Nicholas	nicxfang@hku.hk	https://scholar.google.com/citations?user=PcoqNjgAAAAJ&hl=en	Photonics, Ultrasonics, Advanced Manufacturing, Computational Imaging	
32	Mechanical Engineering	Professor	SROLOVITZ	David	srol@hku.hk	https://srolovitzgroup.github.io/	Research Area(s): Mechanics, material science and artificial intelligence applied to materials design. Topic: Artificial Intelligence based exploration of future aerospace materials	It is anticipated that the student will possess a solid foundation in either materials science or mechanics or physics and experience in programming (Python preferred). Familiarity with machine learning based algorithms is an added advantage.
33	Mechanical Engineering	Dr	ZHANG	Fu	fuzhang@hku.hk	https://mars.hku.hk/	Robotics, UAVs	