



DEPARTMENT OF
DATA AND SYSTEMS ENGINEERING
The University of Hong Kong



DASE

Dissertation – General introduction & Supervisors

Dissertation – A first introduction

- Double credits (24) (cf. 6 credits for taught/learned courses)
- Small-scale research (for most full-time students)
- In the form of an industrial project (for some part-time students)
- Identify the right supervisor on the right topic*
- Independent work BUT frequent interactions with supervisor
- Motto: self-motivation; dedication; academic honesty
- Full-time/Part-time modes

What is Dissertation?

- A scientific investigation
- Discuss with your supervisor to identify a suitable problem
- Decide on the objectives to achieve (3-4)
- Methodology*: methods to achieve these goals
- Implementation*: optimization models or hardware development; perform experiments to obtain results
- Analysis of results (to support the postulations, evaluate performance, etc.)
- Research findings

Dissertation tasks/deliverables



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- Proposal plus Interim report (20%)
 - Oral defence (25-30%)
 - Final report or thesis (50-55%)
-
- Full-Time (FT) and Part-Time (PT) students have different submission schedules.

The first task – finding the right supervisor



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- Supervisors introduce their expert areas and topics this afternoon.
- See this PPT for more information about supervisors/topics.
- Scan the QR code in this PPT to find out much more about supervisors and their expert areas and topics.
- Make your selections of supervisors (1st, 2nd & 3rd choice) and submit your choices to the DASE Dissertation Portal (DDP). DDP starts receiving your submissions from 1st September to 23:55 pm of 6th September.
- Supervisors select students choosing them as first choice, then those choosing them as second (third) choice.
- We shall inform stakeholders the allocation of students to supervisors ASAP.

Dissertation - Important Dates for full-time students



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Date / Time of Events	Type of Events	Content of Events
1 st - 6 th September, 2026	Supervision preference submission	Students (FT & PT) to submit Dissertation Supervisor Intention via DASE Dissertation Portal (DDP)
27th September, 2026 10:00am – 12:00pm	Online seminar	- How to write a Dissertation proposal - Samples of good proposal and Dissertation - Structure of Dissertation - All students are encouraged to join
8 th November, 2026	Proposal submission	Students to submit Dissertation Proposal with tentative Dissertation title
21 st February, 2027	Interim report submission	Students (FT) to submit Interim report
Mid of July, 2027	Oral defence	Students to do the oral presentation (For students who plan to submit the final version of Dissertation in summer semester)
End of July, 2027	Final report submission	For students who plan to submit the final version of Dissertation in summer semester

- DASE7099 Dissertation Portal: <https://msc-dase.hku.hk/login>
- Next submission schedules: Nov/Dec 2027, April/May 2028, July/August 2028

Dissertation - Important Dates for part-time students

Date / Time of Events	Type of Events	Content of Events
1 st – 6 th September, 2026	Supervision preference submission	Students (FT & PT) to submit Dissertation Supervisor Intention via DASE Dissertation Portal (DDP)
27 th September, 2026 10:00am – 12:00pm	Online seminar	- How to write a Dissertation proposal - Samples of good proposal and Dissertation - Structure of Dissertation - All students are encouraged to join
29 th November, 2026	Proposal submission	Students to submit Dissertation Proposal with tentative Dissertation title
13 th June, 2027	Interim report submission	Students (PT) to submit Interim report
April/May, 2028	Oral presentation	Students to do the oral presentation (For students who plan to submit the final version of Dissertation in summer semester)
July/August, 2028	Final report submission	For students who plan to submit the final version of Dissertation in summer semester

- DASE7099 Dissertation Portal: <https://msc-dase.hku.hk/login>
- Next submission schedules: Nov/Dec 2028, April/May 2029, July/August 2029

An illustration of a man with brown hair, wearing a light blue collared shirt, a dark tie, and a tan V-neck sweater over dark trousers. He is standing on a light purple floor, gesturing with his right hand towards a large black chalkboard. The chalkboard has a wooden frame and a small orange eraser at the bottom center. The text 'Introduction to Dissertation Supervisors' is written on the chalkboard in a white, serif font. To the right of the chalkboard is a white, rounded rectangular pot containing a green plant with several small, round leaves. The background is a plain white wall.

Introduction to Dissertation Supervisors

Dissertation Supervisors

Supervision Area(s)
 D= Data science and engineering
 H= Healthcare systems engineering
 R= Robotics and automation
 S= Supply chain management
 T= Transportation and autonomous driving

Name	Pic	Research Field	Supervision Area(s)	Course teaching	Email / Office
Mr. Bill K.P. Chan		Simulation optimization	D	DASE7902 DASE7909	billchan@hku.hk HW8-14
Dr Leith Chan		Virtual Reality	D, H, R, S, T	DASE7137	lkychan@hku.hk HW1-7
Prof. H.P. Chen		Robotics	D, H, R	DASE7501	hepingc@hku.hk HW8-15
Dr Jiangcheng Chen		Wearable robotics	D, H, R	DASE7139	jcchen@hku.hk Cyberport 4A 305
Prof. Jiayu Chen		reinforcement learning and robotics	D, R	DASE7506	jiayuc@hku.hk HW 8-24B
Prof. Y. Cheng		Reliability Modeling	D, S, T	DASE7337	yaocheng@hku.hk HW8-11

Dissertation Supervisors (con't)

Name	Pic	Research Field	Supervision Area(s)	Course teaching	Email / Office
Dr H.H. Cheung		Smart Manufacturing	D, H, R, S, T	DASE7503	hh.cheung@hku.hk HW8-9
Prof. Shiyang Hu		Cyber-Physical Systems	D, R, T	DASE7143	shiyanghu@hku.hk HW8-10
Dr W.J. Huang		Decision making under uncertainty	D	-	huangwj@hku.hk HW8-23A
Prof. Y.H. Kuo		Data analytics and optimization	D, H, S, T	-	yhkuo@hku.hk HW8-8
Prof. Jiayang Li		Operations research challenges	D, T	DASE7113	jiayangli@hku.hk HW 8-24C
Prof. Xiang Li		Human-Computer Interaction Intelligent Interactive Systems	D, H, R	DASE7158	xianghci@hku.hk

Dissertation Supervisors (con't)

Name	Pic	Research Field	Supervision Area(s)	Course teaching	Email / Office
Prof. Shaochong Lin		Logistics and Supply Chain Management	D, S, T	DASE7142	shaoclin@hku.hk HW 8-27
Prof. Jun Liu		Robotics, automation and artificial intelligent	D, H, R	DASE7502	dr.jun.liu@hku.hk HW8-13
Prof. Shinan Liu		Machine Learning Systems, Networking & Cyber-Physical Systems, Security	D, H, R	DASE7508	shinan6@hku.hk HW8-25A
Dr Xin Ma		Robotics and Automation	D, H, R	DASE7507	xinm@hku.hk Cyberport 4A 401
Prof. C.K.L. Or		Human factors and healthcare	D, H	DASE7138 DASE7128	klor@hku.hk HW8-7
Prof. Max Z.J. Shen		Data-driven decision making	D, S, T	-	maxshen@hku.hk

Dissertation Supervisors (con't)

Name	Pic	Research Field	Supervision Area(s)	Course teaching	Email / Office
Prof. C. Sun		Robotics, automation and artificial intelligent	D, R, T	DASE7505	c87sun@hku.hk HW8-24A
Prof. N. Xi		Robotics and automation	D, H, R	-	xining@hku.hk HW8-5/ 8-20
Prof. Yang Xu		Next-generation additive manufacturing (AM) processes	D, H, R	DASE7509	yxu195@hku.hk HW8-23B
Prof. Fangni Zhang		Transportation and Logistics	D, T	DASE7222	fnzhang@hku.hk HW8-3
Prof. Ray. Y. Zhong		Smart manufacturing and construction	D, S, T	DASE7141	zhongzry@hku.hk HW8-6

Dissertation Supervisors (con't)

Name	Pic	Research Field	Supervision Area(s)	Course teaching	Email
Dr P.C. Chen		Financial engineering	D, S	DASE7310	pcchen@hku.hk
Ir. Herman WC Chiu		Terminal planning and operations	T	-	herman3@hku.hk
Dr S.H. Choi		E-business and e-commerce	D, S	DASE7119	shchoi@hku.hk
Prof. George Q. Huang		Smart manufacturing and construction	S	-	gq.huang@polyu.edu.hk
Dr Henry Lau		AI and tele-robotics	R	-	henryykl@hku.hk

Dissertation Supervisors (con't)

Name	Pic	Research Field	Supervision Area(s)	Course teaching	Email
Dr S.W.K. Ng		Supply management	S, T	-	drswkng@netvigat or.com
Prof. J.T. Qi		Robotics	D, R	-	qijt@hku.hk
Dr Shujia Qin		Machine learning	D	DASE7140	stanqin@gmail.com
Dr J.W. Wang		Financial engineering	D, S	DASE7034 DASE7111	jwwang@hku.hk
Dr Y.M. Wong		E-commerce green logistics	S	-	ymwong.skybright @gmail.com

Part-time Teaching staff

Name	Research Field	Course teaching	Email
Prof. E Ballot	Physical internet	DASE7212	eric.ballot@mines-paristech.fr
Mr. Wilson Chow	Engineering economics and finance	DASE7015	nosliwwohc@gmail. com
Prof. A. Knoak and Prof. S. Kulturel-Konak	Modeling, analysis and optimization	DASE7155	auk3@psu.edu sxx70@psu.edu
Prof. A. Kusiak	Terminal planning and operations	DASE7154	andrew-kusiak@uiowa.edu
Dr Benny Lo	Human-robot collaboration	DASE7504	benny.lo@imperial.ac.uk
Mr. D. Meyer	Shipping law	DASE7251	dmeyer@netvigator.com
Mr. N. Xu	Entrepreneurship	DASE7341	xunuo@hku.hk

Teachers - Supervision Area(s)

Data science and engineering

Mr. Bill K.P. Chan	Prof. Shinan Liu
Dr Leith Chan	Dr Xin Ma
Prof. H.P. Chen	Prof. C.K.L. Or
Dr Jiangcheng Chen	Prof. Max Z.J. Shen
Prof. Jiayu Chen	Prof. C. Sun
Prof. Y. Cheng	Prof. N. Xi
Dr H.H. Cheung	Prof. Yang Xu
Prof. Shiyan Hu	Prof. Fangni Zhang
Dr W.J. Huang	Prof. Ray. Y. Zhong
Prof. Y.H. Kuo	Dr P.C. Chen
Prof. Jiayang Li	Dr S.H. Choi
Prof. Xiang Li	Prof. J.T. Qi
Prof. Shaochong Lin	Dr Shujia Qin
Prof. Jun Liu	Dr J.W. Wang

Healthcare systems engineering

Dr Leith Chan	Prof. Jun Liu
Prof. H.P. Chen	Prof. Shinan Liu
Dr Jiangcheng Chen	Dr Xin Ma
Dr H.H. Cheung	Prof. C.K.L. Or
Prof. Y.H. Kuo	Prof. N. Xi
Prof. Xiang Li	Prof. Yang Xu

Robotics and automation

Dr Leith Chan	Prof. Shinan Liu
Prof. H.P. Chen	Dr Xin Ma
Dr Jiangcheng Chen	Prof. C. Sun
Prof. Jiayu Chen	Prof. N. Xi
Dr H.H. Cheung	Prof. Yang Xu
Prof. Shiyan Hu	Dr Henry Lau
Prof. Xiang Li	Prof. J.T. Qi
Prof. Jun Liu	

Teachers - Supervision Area(s)

Supply chain management

Dr Leith Chan	Dr P.C. Chen
Prof. Y. Cheng	Dr S.H. Choi
Dr H.H. Cheung	Prof. George Q. Huang
Prof. Y.H. Kuo	Dr S.W.K. Ng
Prof. Shaochong Lin	Dr J.W. Wang
Dr Jonathan W.C. Ng	Dr Y.M. Wong
Prof. Max Z.J. Shen	
Prof. Ray. Y. Zhong	

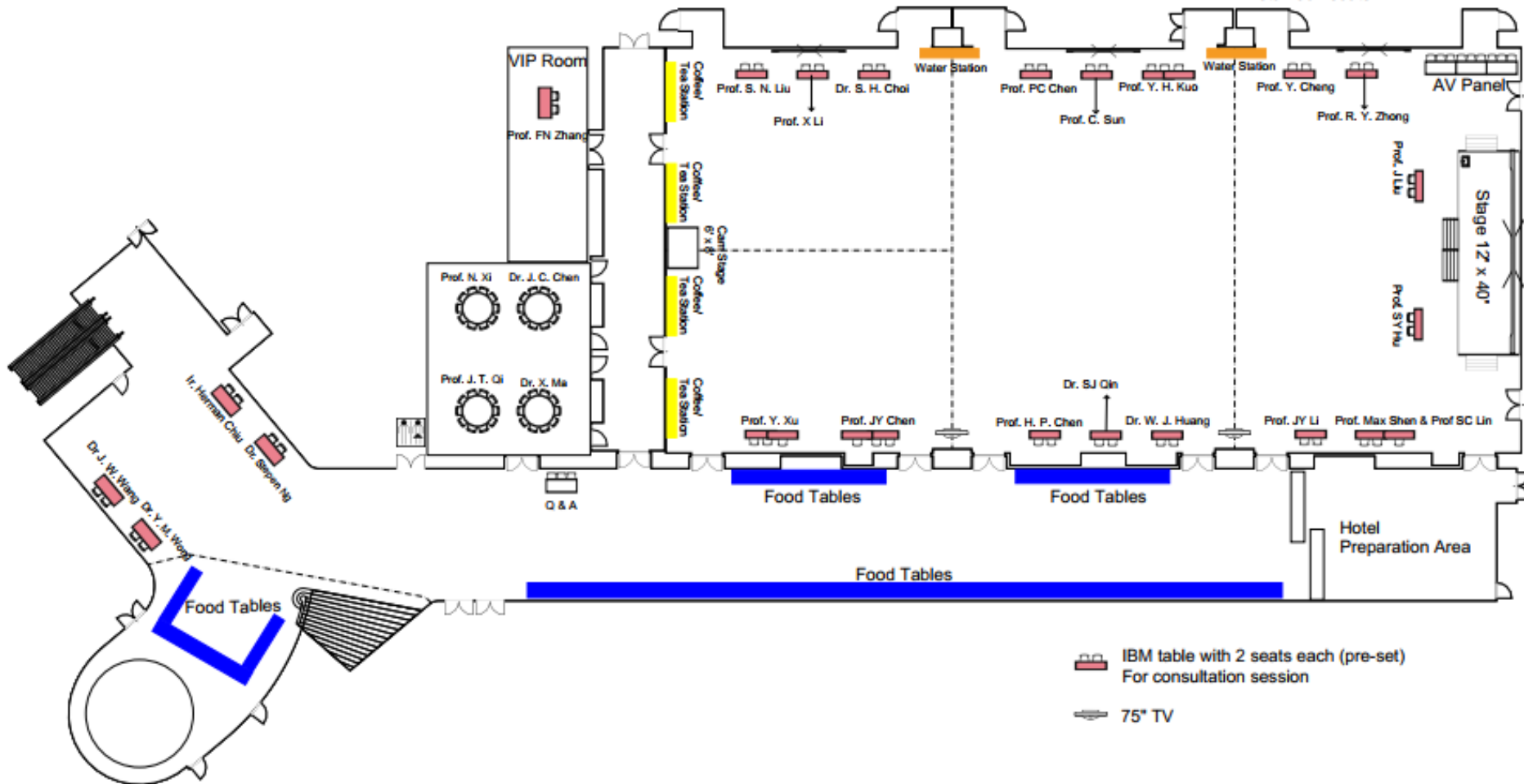
Transportation and autonomous driving

Dr Leith Chan	Prof. Max Z.J. Shen
Prof. Y. Cheng	Prof. C. Sun
Dr H.H. Cheung	Prof. Fangni Zhang
Prof. Shiyan Hu	Prof. Ray. Y. Zhong
Prof. Y.H. Kuo	Ir. Herman W.C. Chiu
Prof. Jiayang Li	Dr S.W.K. Ng
Prof. Shaochong Lin	

Floor plan for consultation session

HKU DASE MSc(Eng)(IELM) & MSc(Eng)(RIS)
Programme Orientation
Tues, 25 Aug, 2026
Grand Ballroom

42 tables with 12 persons each
Total: 504 seats



DASE Dissertation Supervisors PPT (Detailed ver.)



DASE Dissertation Supervisors



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THE UNIVERSITY OF HONG KONG

Mr. Bill K.P. Chan



Supervision Area:

- Data science and engineering

Expertise	Samples of Dissertation Title
Process Simulation and Modelling Simulation Optimization Applications in Warehouses and Logistics Systems Operations	• Improving Printer Production Line Performance Based on Lean Production - A Case Study • Simulation-based Optimization Using Cross-Entropy and Simple Random Search on Buffer Allocation Problem • Efficiency Improvement and Simulation of AGV for E-commerce Warehouse Operation • Simulation-based Optimization to Minimize the Non-Value-Added Time of a Digital Production Factory: A Case Study • Simulation-based Lean Six Sigma Approach to Improve Dishwash Operation in Airline Catering Service Provider

Dr Leith Chan



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering
- Robotics and automation
- ▶ Supply chain management
- ▶ Transportation and autonomous driving

Expertise	Samples of Dissertation Title
Virtual Reality; Mixed Reality; 3D User Interface; Integration of VR/MR in Systems Engineering	• Anatomy Education Application based on Mobile Augmented Reality • Design and Implementation of a VR-Based Training System for Canine Acupuncture in Traditional Chinese Veterinary Medicine • Enhancing Egocentric Depth Perception in Virtual Reality through Color-Based Techniques

Prof. H.P. Chen



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering

► Robotics and automation

Expertise

Samples of Dissertation Topics

Intelligent industrial robotics

Machine learning in
manufacturing automaton

Mobile industrial manipulation

Construction robotics

- 2026 Meituan 4th Low-Altitude & Embodied AI Challenge
- Design of a Compact Home Exercise Robotic System
- Learning human assembly skills for industrial robot programming
- Picking Mixed Flexible Parts in Industrial Bins
- Random object palletizing Using Industrial Robot
- Action Generation of Mobile Industrial Manipulator based on Voice Commands
- Intelligent Robotics for Construction Automation
- Defect Inspection in Reflective/transparent objects
- Human Behavior Understanding
- Human Robot Interaction

Dr Jiangcheng Chen



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering

► Robotics and automation

Expertise	Samples of Dissertation Title
Wearable Robotics for Healthcare and Rehabilitation;	• Design and control of artificial muscle actuators • Human–robot cooperative control for wearable robots • Development of an AI-driven digital coaching system for strength training
Intelligent Robotics for Strength and Conditioning Training;	• Development of camera-based human motion capture systems • Multi-sensor fusion methods for human movement performance monitoring
Physical AI and Embodied Intelligence	• Design and control of dexterous robotic hands

Prof. Jiayu Chen



Supervision Areas:

- Data science and engineering

► Robotics and automation

Expertise	Samples of Dissertation Title
Robotics; Reinforcement Learning; Foundation Models	• Continual Learning for Robotic Foundation Models, such as VLAs and WAMs • Causal World Models for Embodiment Intelligence • RL Post-Training for LLM Agents • Harness Engineering for LLM Agents • World Modelling for Controllable Nuclear Fusion

Prof. Yao Cheng



Supervision Areas:

- Data science and engineering
- Supply chain management

► Transportation and autonomous driving

Expertise 1	Samples of Dissertation Title
Planning and Operation Decisions for EV Energy Replenishment Infrastructures and Solar Energy Systems	•Optimal Locations for EV Charging Stations in Shen Zhen: a case study. •Optimal location and sizing for PV-storage charging station on expressways. •A Dynamic Battery Charging and Allocation Strategy for Battery •An Optimal End-of-Life Photovoltaic Module Reverse Logistics Recycling Network •Uncertainty Forecasting of Photovoltaic Power Generation based on Combined SSA-LASTM-KDE Models •Optimal Spare Parts Inventory Policies for Photovoltaic Power Station Inverters.

Expertise 2	Samples of Dissertation Title
Resilient Networked Systems Design	•Resilience Design and Critical Node Identification of a Port-and-Distribution Network. •Critical Platforms and Tracks in Metro Systems. •Resource sharing strategy for supply chain partners with horizontal collaboration. •Optimization study of post-disaster grid repair scheme considering economic benefits.

Dr H.H. Cheung



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering
- Robotics and automation
- ▶ Supply chain management
- ▶ Transportation and autonomous driving

Expertise	Samples of Dissertation Title
3D Printing;	• Development of a machine learning approach for material replenishment and implementation issues of automated guided vehicles enabled warehouse in Towngas • A study on 3D Printing in aviation industry
Smart Manufacturing & Logistics;	• A digitized scanning approach for mass customization in product development • Mixed reality for product development • A study on additive manufacturing for dental application
E-commerce;	• Research on customer satisfaction of fresh e-commerce business – based on the perspective of Shenzhen citizen • A B-IoT temperature monitoring system for vaccine cold chain
Mixed Reality, Digital Twin, Cyber Physical Systems, RFID, IoT, Robotics, and AI for Innovative & Smart applications;	• A feasibility study of RFID-based system for government logistics • An IoT-based supply chain system for enhancing O2O apparel retailing • An RFID-enabled track-and trace approach for enhancing toy industry product safety • A fuzzy logic enabled trust analytics models for e-commerce • A study on optimization of online airlines marketing strategy in China

Prof. Shiyan Hu



Supervision Areas:

- Data science and engineering
- Transportation and autonomous driving

► Robotics and automation

Expertise	Samples of Dissertation Topics
Robotics and Automation	• Robot Learning • Vision Language Models • Vision Language Navigation • Human Robot Interaction • Robot Motion Planning and Control • Quadruped Locomotion for Unitree Go2 and B2 • Humanoid Locomotion for Unitree G1 and R1 • VLA using Franka, UR, PiperX, etc • RL for Dexterous Hands • Multi-Sensor Data Fusion for Autonomous Driving • Data Analytics for FinTech
Data Analytics	
Internet-of-Things and Cyber-Physical Systems	

Dr W.J. Huang



Supervision Area:

- Data science and engineering

Expertise	Samples of Dissertation Title
Risk Analytics; Data-driven Decision-Making; Sequential Decision-Making; Applications in Smart Transportation/Urban Sustainability/Humanitarian Operations/Logistics and Supply Chain Management/Revenue Management;	• Choice-based network revenue management with resource satisficing; • Risk-averse reinforcement learning in inventory control; • Black-box optimization for multiple-point pollution source identification; • Zero-order online learning for pollution source identification

Prof. Y.H. Kuo



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering
- ▶ Supply chain management
- ▶ Transportation and autonomous driving

Expertise	Samples of Dissertation Title
Computer vision; Virtual reality; Data-driven modelling, simulation, and optimization; Transportation and traffic systems; Logistics management; Healthcare systems engineering; Human behavior inference	• Computer vision-based transportation & logistics applications • VR scenario creation for job training • Human behavior inference via AI • Workforce planning through mathematical optimization • Public transportation design and operations optimization • Electrical vehicle charging network optimization • Improving patient flow at a hospital emergency department using simulation, optimization, and machine learning • Impacts of COVID-19 on the efficiency of a healthcare system • Examining Changes in Hong Kong's Urban Rail Transit Network and Passenger Demand Due to COVID-19 • Optimizing Passenger Flow in Urban Rail Transit Networks with Simulation During Disruptions

Prof. Jiayang Li



Supervision Areas:

- Data science and engineering

► Transportation and autonomous driving

Expertise	Samples of Dissertation Title
Transportation; Optimization; Game Theory; Operations Research	• Bilevel programming • Federated learning • Large language models for traffic system modeling • Automated vehicle management • Electric vehicle management • Transit assignment and design • Railway operations • Emergency management in transportation systems

Prof. Xiang Li



Supervision Areas:

- ▶ **Data science and engineering**
- ▶ **Robotics and automation**
- ▶ **Healthcare systems engineering**

Expertise	Samples of Dissertation Title
• Human-Computer Interaction; • VR/AR/MR and Social XR • Intelligent Interactive Systems • Human-AI Interaction; • Wearables and Ubiquitous Computing; • Assistive Technologies	• Context-Aware Timing of Proactive Assistance in Everyday Tasks • Levels of AI Initiative in Human–AI Interaction • Peripheral Visual Cues for Secondary Information in Augmented Reality • Affordance-Aware Semantic Anchoring of Digital Content in Mixed Reality • Egocentric Memory Support for Everyday Activity Recall • Spatial Memory Maps for Object-Based Retrieval of Egocentric Lifelogs • Spatial Information Organisation for Knowledge Work in Virtual Reality

Prof. Shaochong Lin



Supervision Areas:

- Data science and engineering
- Supply chain management

► Transportation and autonomous driving

Expertise	Samples of Dissertation Title
AI + Operations Research/Operations Management; Data-Driven Decision-Making in Smart Retail, Transportation, and Manufacturing	• Data-driven inventory and promotion optimization; • Machine learning approach to predict aircraft boarding and optimization; • Collaborative scheduling optimization in workshop assembly • Operations research modeling with LLM • LLM-augmented learning for cross-domain operations planning • Planning and scheduling of automated material handling systems in semiconductor manufacturing environments

Prof. Jun Liu



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering

► Robotics and automation

Expertise	Samples of Dissertation Title
• Micro/nano robotics • AI for smart manufacturing • Smart sensor and actuators	• Origami-based micro actuators for single cell manipulation • Machine learning methods for vision and acoustic based measurement for fault analysis • Novel magnetic microrobot for high payload output • Construction robot for gypsum wall laying tasks • Acoustic manipulation of small objects • Microrobotic manipulation of single cells • Insect-inspired microrobots for underground navigation • Origami-based hopping microrobots

Prof. Shinan Liu



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering
- ▶ Robotics and automation

Expertise	Samples of Dissertation Title
• Machine Learning Systems • Security and Privacy • Cyber-physical Systems	• Deep Generative Compression for Retention of Enterprise Data • Synthetic Data Generation in Security-Critical Systems • Privacy-Aware ML Pipelines for Wearable Healthcare Devices • Cybersecurity Risks in Networked Medical Devices • Multi-Modal Data Fusion for Clinical Decision Support Systems • ML Systems for Robust Localization under GPS Spoofing Attacks • Adaptive Intrusion Detection in Autonomous Vehicle Networks

Dr Xin Ma



Supervision Areas:

- ▶ **Data science and engineering**
- ▶ **Robotics and automation**
- ▶ **Healthcare systems engineering**

Expertise	Samples of Dissertation Topics
Human Sensing and Data Analytics	• Sensing the Force: Developing Wearable Tactile Sensors for Enhanced Robot Learning
Generative Model	• From Sensors to Semantics: Multimodal Sensor-Grounded LLMs for Clinical Reasoning
Robot Learning	• Bridging the Morphology Gap: Human-Humanoid robots skill transfer and learning
World Action Model	• Seeing the Unseen: Action-Conditioned World Models for Autonomous Ultrasound Robots • Adaptive Assistance: Generative Modeling Frameworks for Physical Human-Robot Interaction

Prof. C.K.L. Or



Supervision Areas:

- Data science and engineering

► Healthcare systems engineering

Expertise	Samples of Dissertation Title
Human factors engineering Health Informatics Human-computer interaction	• Deep learning for diabetic retinopathy and beyond: severity classification, lesion segmentation, and systemic disease prediction from fundus images • From understanding to alleviating emotional distress: a dual-stage study of social media mining and ai interaction effects • Developing an application software based on cognitive behavioral therapy for people in depressed and anxious moods • Predicting medication adherence in diabetes and hypertension patients using machine learning algorithms • Relationship between heart rate variability and eye movement signals during the process of administering medication: a lab-based eye-tracker simulation study

Prof. Max Z.J. Shen



Supervision Areas:

- Data science and engineering
- Supply chain management

► Transportation and autonomous driving

Expertise	Samples of Dissertation Title
Data-driven Decision Making; Logistics and Supply Chain Optimization; Smart Transportation; AI + Operations Research/Operations Management	• Planning and scheduling of automated material handling systems in semiconductor manufacturing environments • demand prediction with opaque selling • Flight arrival time prediction based on deep learning and gate reassignment optimization • Operations research modeling with large language models • LLM-augmented learning for cross-domain operations planning

Prof. Chen SUN



Supervision Areas:

- Data science and engineering
- Robotics and automation

► Transportation and autonomous driving

Expertise

Prediction and planning;
Safe control;
AI-safety Validation;
In-Cabin Monitoring;
AI-assisted Diagnosis and Prognosis;
Smart Robotic Assist

Samples of Dissertation Title

- Multi-Agent Trajectory Prediction with Social Interaction Modeling for Urban Intersection Scenarios
- Uncertainty-Aware Trajectory Prediction Incorporating Human Driving Style Recognition
- Robust Performance-Prescribed Control for Connected Autonomous Vehicle Platoons
- Agile Flight Controllers for Drones with Performance Guarantees in Dynamic Environments
- Generating Adversarial Linguistic Corner Cases for Large Language Models
- Personalized In-Vehicle Health Monitoring and Intervention
- Real-Time Fault Diagnosis and Remaining Useful Life Prognosis in Robotic Infrastructure Inspection
- Enhancing Social Navigation and Situational Awareness for Blind Users
- Integrating Large Language Models and Adaptive HRI for Intelligent Navigation Assistance for the Visually Impaired

Prof. Ning Xi



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering

► Robotics and automation

Expertise	Samples of Dissertation Topics
Robotics, Automation	• Human and robot Interactions
Intelligent Systems, Sensing and Data Processing;	• Robot learning and programming; • Internet based automation;
Internet and application.	• Sensors and data processing; • Mobile robot navigation; • Computer vision and image processing

Prof. Yang Xu



Supervision Areas:

- Data science and engineering
- Healthcare systems engineering

► Robotics and automation

Expertise	Samples of Dissertation Title
AI for Manufacturing;	• LLM-enhanced multi-task learning for quality prediction of 3D-printed parts • A Multimodal CNN Framework for Process monitoring in 3D Printing
AI for Design;	• PhotoMind: an autonomous agent for 3D printing • Machine-learning-driven design of lattice structures
Robotic Manufacturing;	• Vision-guided robotic conformal printing for repair and smart reinforcement • Programmable platform for human-machine interaction
Intelligent Systems;	• 3D-printed robots for multimodal locomotion and navigation

Prof. Fangni Zhang



Supervision Areas:

- Data science and engineering

► Transportation and autonomous driving

Expertise	Samples of Dissertation Topics
Transportation systems modeling and optimization;	• On-demand parcel and food delivery using drones • Path and trajectory planning for urban air mobility • Truck-and-drone collaboration for post-disaster rescue • Low-altitude airspace allocation and pricing mechanisms • Urban traffic learning and prediction
Logistics systems planning and optimization	• Automated last-mile delivery system design and optimization • Smart parking management with Large-Language Models (LLMs) • Integrated parking and charging scheduling for electric vehicles • Mobility and V2G services of electric vehicles
Transport/urban data analytics	• Mobility service platform with Modular Vehicles • Collaborative passenger and freight transportation • Large-Language Models (LLMs) for smart mobility

Prof. Ray Y. Zhong



Supervision Areas:

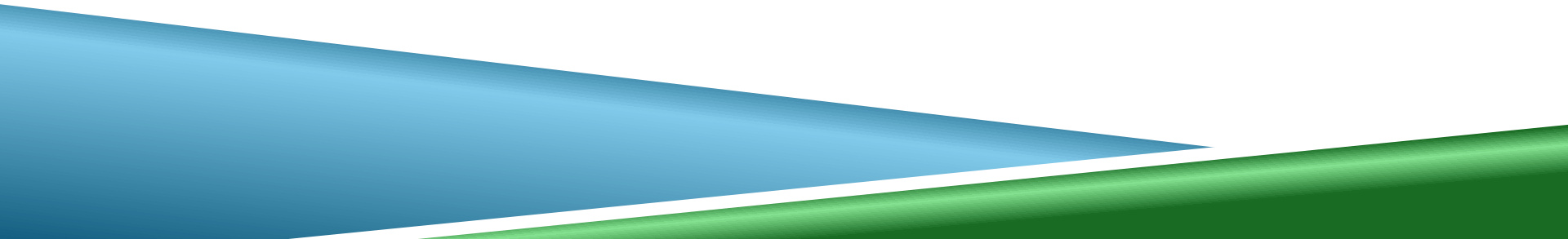
- Data science and engineering
- Supply chain management

► Transportation and autonomous driving

Expertise	Samples of Dissertation Title
• Smart Prefabrication Construction Supply Chain Management • Big Data Analytics • Internet of Things (IoT)-enabled Manufacturing • ESG for Logistics Industry • Construction Informatics/Analytics	• Data-based building information model (BIM) platform analysis for logistics of prefabrication components • An integrated quality management system based on big data analytics for shop-floor production • Optimization of logistics in RFID-enabled factories with big data • Construction Waste Recycling: Assessing ESG Impacts Using Data LCSA Analysis Method • Deep learning-based logistics optimization for Housing construction in Hong Kong

Dissertation Topics

Part-time teachers



Dr P.C. Chen



Supervision Areas:

- Data science and engineering
- Supply chain management

Expertise	Samples of Dissertation Title
Finance; Operations, Risk Management; Interface of Finance, Operations and Risk Management	• Pair Trading: Five Factors Model Approach • The Role of Unverified Soft Information in Lending: Evidence from Peer-to-peer lending Market • Systemic Risk in Irregular Financial Networks

Ir. Herman W.C. Chiu



Supervision Area:

► Transportation and autonomous driving

Expertise	Samples of Dissertation Title
Airport cargo terminals: planning, operations and automation; Container terminals: planning, operations and automation	• Resources optimization in air cargo terminal operations • Assessing the capacity and reviewing improvements in layout, operations and equipment of an air cargo terminal in Hong Kong • Container terminal handling capacity and vessel development • Developing strategies in job/vehicle scheduling, container stacking, routing and traffic planning for autonomous vehicles

Dr S.H. Choi



Supervision Areas:

- Data science and engineering

► Supply chain management

Expertise	Samples of Dissertation Title
E-business and e-commerce; RFID and NFC applications (product anti-counterfeiting, supply chain and retail management); Digital technologies for manufacturing (CAD/CAM, 3D printing, virtual prototyping and digital manufacturing); Carbon control in manufacturing	• Inventory Management for e-commerce under Seasonal Demand Uncertainty • Supply chain management for B2C e-commerce of fresh agricultural products • An NFC-based mobile platform for trading of second-hand items in university campuses • Optimization of semi-automated order picking in bonded warehouses for cross-border e-commerce • Order allocation of crowdsourced last mile logistics service for e-commerce • A study of direct digital manufacturing of hearing aids • Internet of things for logistics optimization of fresh agricultural products • A comparison of emission trading systems in China and Europe Union • Single-item single-level production planning with carbon emission policies

Prof. G.Q. Huang



Supervision Area:

- Supply chain management

Expertise	Samples of Dissertation Title
Smart logistics; Smart manufacturing; Smart fit-out construction; Game-theoretic analysis	• A Pokémon Go Style Warehouse Staff Incentive System • Exploring the Furniture Warehouse Store Model in China: Case Studies of METRO and IKEA

Dr Henry Lau



Supervision Areas:

- **Robotics and automation**

Expertise

Samples of Dissertation Title

Intelligent systems

Tele-robotics and remote handling systems

Technology innovation and management

Research-to-commercialisation pipeline

- Human skills profiling with machine learning
- Digital twins for robotics remote handling
- Anomaly detection of human task sequences
- Evolution strategies for training modular standalone language models

Dr S.W.K. Ng



Supervision Area:

- Supply chain management

- Transportation and autonomous driving

Expertise

Green Procurement, Supply Management, Smart Logistics, E-Commerce, Auto-Warehousing/Distribution, Operations Improvement and Supply Chain Leadership, ESG/Sustainability, Change, Operations & Business Re-engineering, Six-Sigma & Quality Development, One Belt, One Road, New Quality Productive Forces, Human/Talent Engagement, and People Engineering & Productivity.

Samples of Dissertation Title

- Change, re-engineering and improvements in Procurement, Logistics, Operations and Supply Chain Leadership and Development, Performance Measurement & KPIs in Supply Flows;
- Suppliers Management and Operations Improvements in Supply Chain Process;
- Global Outsourcing, Auto Supply Chain, Merger & Acquisitions, Risk Management; Crisis Control, Negotiation, and Mediations;
- Partnership; PPP; Costs Engineering; Engineering Contracts Management; Digitalization & Technologies in Supply Chain, and Lean and Six Sigma Quality;
- Logistics, and Green Operations Improvements, from First Parties to Fourth Parties in the Value Chain and Profit Centre;
- Business Ethics; Blockchain; Social responsibilities; Green Supply Chain: Global Standards; ESG; 2030 and 2060 Carbon Targets;
- Professional Standard; Sustainability under ISO20400, ISO23412 UN17 Goals etc.; Procurement Consortium; and
- Operations Improvements in Applications of 3D, TQM, LSS, HRM under Post- Pandemics and New & Challenging Environment.

Prof. J.T. QI



Supervision Area:

► **Data science and engineering**

► **Robotics and automation**

Expertise	Samples of Dissertation Title
Embodied AI & Physical AI	• Sim-to-Real Robotic Manipulation via VLA Models • Offline RL for Quadruped Agile Locomotion
Unmanned System & Distributed Intelligence	• Collaborative Swarm Navigation for UAVs/UGVs/USVs • Federated Learning in Constrained Multi-Agent Systems
AI in Finance & Quantitative Analytics	• Deep Learning for High-Frequency Alpha Extraction • LLM-Driven Financial Forecasting with Alternative Data

Free exploration is welcomed, Self-proposed topics are highly encouraged

Dr Shujia Qin



Supervision Area:

- Data science and engineering

Expertise	Samples of Dissertation Title
Artificial intelligence; Machine learning; Computer vision; Signal processing.	• Bidirectional feature pyramid attention-based temporal convolutional network model for motor imagery electroencephalogram classification • Compressive video recovery using block-match multi-frame motion estimation based on single-pixel cameras • AuralYOLO: Detection and Localization of Speech Events Using Modern Object Detection Architecture • Real-Time Dynamic Risk Tracking of Telecommunications Fraud Based on Parallel Multimodal Analysis

Dr J.W. Wang



Supervision Areas:

- Data science and engineering

- ▶ Supply chain management

Expertise

Resilience engineering; Financial engineering ; Service systems engineering (transportation, health care, finance); Mathematical modeling, intelligent optimization and simulation.

Samples of Dissertation Title

- Analysis of Cryptocurrency Market: Dependence and Interaction with Stock Market
- Rebalancing Strategies for Stock-REITs-Cryptocurrency Portfolios
- Express Satisfaction Measurement Model and Logistics Optimization in Cross-Border E-Commerce from Mainland China to Hong Kong
- Optimizing the operational staffing for the complex outpatient care system of a large-scale hospital
- NSGA-II based Package Logistics using Integrated Truck and Drone Routing

Dr Y. M. Wong 王耀文



Supervision Area:

- Supply chain management

Expertise	Samples of Dissertation Title
Global Logistics, Courier, China's E-commerce Cases, Cold Chain, Green Logistics, AGV/ AMR/ AI Applications, Warehouse Automation, Belt & Road Initiative, Low Altitude Economy/ Drone, Airport Cargo Terminals	• Agility of the material management system to cope with sales order fluctuations • Research on the synergy of Luxury E-commerce and Store Locations Selection • Smart warehousing storage and retrieval design with a case study of dyeing factory • Reverse Logistics Modeling for End-of-Life Lithium-Ion Batteries and Its Impact on Recycling Viability • Optimization of container multimodal transport routes between China and Europe • Subway Logistics System Design in Guangzhou-Foshan • Multichannel network logistics with combined local and offshore warehouses