[Updated on 2 Apr 2025]

Gifted Education Fund: Off-School Advanced Learning Programmes (2024/25)
Edge AIoT and Microelectronics (EdgeAIoTM) Engineering Skills for Gifted Students
Programme no: 2024-09 (A4AIG010C - A4AIG015C)

*[*** The schedule is for reference only and are subject to the programme provider's version.]*

Notice

- You are recommended to bring your own laptop (with charger) to every lesson.
- A map of the venue is attached to the last page of this schedule for your reference.
- If you want to excuse yourself from any sessions for special reasons, you should notify us by submitting the Leave Notification Form and provide relevant documents.

Phase 1 (A4AIG010C)

Foundational Guest Lectures on AI, Edge AIoT and Microelectronics

Session	Date	Time	Venue	Contents / Remarks
1	23 May (Fri)	5:30 p.m. – 7:30p.m.	Room G4702	Foundational Guest Lecture on Microelectronics Engineering
2	30 May (Fri)	5:30 p.m. – 7:30p.m.	City University of Hong Kong	Foundational Guest Lecture on AI
3	6 Jun (Fri)	5:30 p.m. – 7:30p.m.	(Location)	Foundational Guest Lecture on Edge Computing

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◆ Phase 2 (A4AIG011C)

Fundamentals of Microelectronics and Digital Systems Design

Session	Date	Time	Venue	Contents / Remarks
4	13 Jun (Fri)	5:30 p.m. – 7:30p.m.	Room G4702 City University of Hong Kong (Location)	Introduction to Microelectronics and Digital Systems
5	20 Jun (Fri)	5:30 p.m. – 7:30p.m.		Combinational Logic Design
6	27 Jun (Fri)	5:30 p.m. – 7:30p.m.		Sequential Logic Design
7	4 Jul (Fri)	5:30 p.m. – 7:30p.m.		FPGA System Design and Implementation with Vivado and Vitis
8	11 Jul (Fri)	5:30 p.m. – 7:30p.m.		System on Chip Design (SoC) on FPGA: Hardware Acceleration
9	18 Jul (Fri)	5:30 p.m. – 7:30p.m.		Edge Detection and Camera/ Video Streaming on FPGA

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◆ Phase 3 (A4AIG012C)

Basic AI and Machine Learning Theories and Techniques with Hands-on AI Coding in Python

Session	Date	Time	Venue	Contents / Remarks
10	25 Jul (Fri)	5:30 p.m. – 7:30p.m.	Room G4702 City University of Hong Kong (Location)	Machine Learning Python Libraries and Environments
11	1 Aug (Fri)	5:30 p.m. – 7:30p.m.		AI and Machine Learning Algorithms and Techniques
12	8 Aug (Fri)	5:30 p.m. – 7:30p.m.		Fundamentals of deep neural network, its training and inference (MNIST Dataset use case)
13	15 Aug (Fri)	5:30 p.m. – 7:30p.m.		Convolutional Neural Network (CNN)

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◆ Phase 4 (A4AIG013C)

AI Internet of Things (Edge AIoT) Design and Development on FPGA (PYNQ)

Session	Date	Time	Venue	Contents / Remarks
14	22 Aug (Fri)	5:30 p.m. – 7:30p.m.	Room G4702 City University of Hong Kong (Location)	Introduction to AI Internet of Things (AIoT) and Edge Computing
15	29 Aug (Fri)	5:30 p.m. – 7:30p.m.		Embedded Edge AI Platforms and Tools
16	5 Sep (Fri)	5:30 p.m. – 7:30p.m.		Deep Learning Processor (DPU) Implementation and Pre-trained AI Model Inference
17	12 Sep (Fri)	5:30 p.m. – 7:30p.m.		AI Model Quantization, Compilation, and Inference with Vitis-AI and PYNQ
18	19 Sep (Fri)	5:30 p.m. – 7:30p.m.		Smart Home Automation with FPGA

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Phase 5 (A4AIG014C)

Advanced Edge AI Applications Development on Edge Computing Platform

Session	Date	Time	Venue	Contents / Remarks
19	26 Sep (Fri)	5:30 p.m. – 7:30p.m.	Room G4702 City University of Hong Kong (Location)	Getting Familiar with GPU/NPU Architectures, Edge Platforms and Developer Tools & Object Detection
20	3 Oct (Fri)	5:30 p.m. – 7:30p.m.		YOLO Object Detection and Face Recognition, Training and Inference on GPU/NPU Hardware Acceleration Platform
21	10 Oct (Fri)	5:30 p.m. – 7:30p.m.		Generative AI Fundamentals and Practice on Edge Devices, AI Ethics (Hands-on)

Phase 6 (A4AIG015C)

Final Project Mentorship, Presentation, Competition and Exhibition

Session	Date	Time	Venue	Contents / Remarks
22	17 Oct (Fri)	5:30 p.m. – 7:30p.m.	City University of Hong Kong Room G4702 (Location)	1st Mentorship Meeting
23	24 Oct (Fri)	5:30 p.m. – 7:30p.m.		2nd Mentorship Meeting
24	TBC	TBC	TBC	Student Project Exhibition, Final Competition & Closing Ceremony

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Map

The following map shows the location of the classrooms: