

SUMMER CAMP 2024

SMART HOME INNOVATION

DESIGN . BUILD . PITCH

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MIT Hong Kong
Innovation Node



JULY 22-26

AGES 11-13

AUGUST 12-16

AGES 14-17

Explore the Exciting World of IoT

Our living spaces are undergoing a profound transformation in the era of technological innovation. Explore the exciting world of IoT and develop intelligent solutions for smart homes. Students will learn about ambient computing, the role of AI and machine learning, and how to assemble and code various IoT electronic components, sensors, devices, and microcontrollers to create a smart home security system. Alongside our subject content, students will take part in thought-provoking discussions and wellbeing activities.

Learning Outcomes:

- ➔ Understand IoT fundamentals and applications in smart homes
- ➔ Gain hands-on experience with programming and hardware
- ➔ Develop 21st-century skills through project-based learning
- ➔ Learn how to communicate ideas with conviction
- ➔ Engage with domain experts in the field

Students receive a Certificate of Completion issued by MIT Hong Kong Innovation Node.



IoT devices & platforms covered:

- ➔ Programming with Micro:bit
- ➔ IoT sensors
- ➔ MIT App Inventor
- ➔ Machine learning
- ➔ Security systems
- ➔ Electronic circuit assembly
- ➔ Wireless communication
- ➔ User interface (UI) design

Program Overview

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Medium of Instruction: English



Theme: Smart Home Innovation



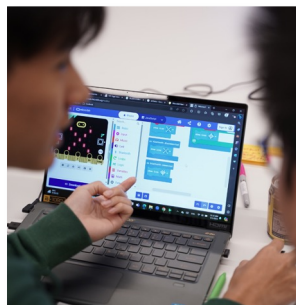
Time: 9:30 AM - 4:30 PM | Lunch provided

Requirements: Participants should bring their own laptops or tablets and mouse.



Basic coding experience, such as working with Scratch and Micro:bit, are strongly recommended.

Suited for ambitious students wishing to gain key 21st century skills through a range of contemporary STEM content, blended with a balance of intelligent discussions and wellbeing activities in an international environment.



Program Schedule

2024	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Team Check-ins 9:15 – 9:30					
9:30 – 11:00	Smart Home Security System <i>Goals and Objectives</i>	Smart Home Security System <i>Research and Gather Data</i>	Smart Home Security System <i>Compatibility and Ecosystems</i>	Smart Home Security System <i>Implementation</i>	Integration & Projects <i>IoT devices, sensors, programming and assembly</i>
Break 11:00 – 11:15					
11:15 – 12:30	Team Challenge	Guest Speaker	Team Challenge	Integration & Projects <i>Art of Pitching</i>	Showcase Rehearsal
Lunch 12:30 – 13:30					
13:30 – 15:00	Integration & Projects <i>IoT devices, sensors, programming and assembly</i>	Integration & Projects <i>IoT devices, sensors, programming and assembly</i>	Integration & Projects <i>IoT devices, sensors, programming and assembly</i>	Integration & Projects <i>Coaching</i>	Showcase Presentations
Break 15:00 – 15:15					
15:15 – 16:30	Integration & Projects Thematic Discussion	Integration & Projects Wellbeing Activity	Integration & Projects Thematic Discussion	Integration & Projects Wellbeing Activity	Feedback & Reflections Certificate Presentation

MIT Innovation Academy promotes education for practical application, fostering innovation in education and pathways to the digital economy.

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