



IFF2024 2-Day Bootcamp Program

Date & Time: 14-15 Sept 2024 (Sat-Sun) 9:30 am to 5:30pm

Venue: VTC STEAM Centre, IVE (Tsing Yi) Tsing Yi Road, Tsing Yi Island, NT

Language: in Cantonese

www.innovateforfuture.com

Venue Sponsor



The training program is supported by our
IFF training partners and tutors



Time	Program	
Sept 14 (Sat)		
0930 – 1300	Trainer: Kitty Tang By VTC STEAM & SCI Centres	VTC STEAM & SCI Visit VTC VR Application Development Workshop
1300-1430		Lunch
1430-1730	Trainer: Cliff Ho	Retrieval Augmented Generation Workshop
Sept 15 (Sun)		
0930 – 1300	Trainer: Alex Leung By Turned-E Education	Micro-Electronics Program
1300-1430		Lunch
1430-1730	Trainer: Joyce Ye, Ancus Lau By IFF Tutors	(1) Introduction of Embedded System Development (2) Cybersecurity Awareness Workshop
1730-1830	Bootcamp Wrap Up Certification Presentation By VTC Centre and IFF OC Chair	Review and Round-table Sharing

IFF Training Program Details

Workshop#1: VR Application Development Workshop

Description

The MR Application Development Workshop introduces participants to the concept of using virtual reality technology to create immersive digital experiences. Participants will learn how to build custom MR applications with Meta Quest. Through hands-on activities, participants will understand the integration of hardware, software, and design principles to develop engaging MR environments.

Trainer Profile

Kitty Tang is an experienced XR developer with a strong background in the development of XR applications. With expertise in working with various industries including the lift industry and container terminal operations, Kitty has gained valuable experience across different domains. Kitty is proficient in utilizing the Unity Game Engine, 3Ds Max, and Adobe software suite for XR development. These tools enable Kitty to effectively create immersive experiences and deliver high-quality XR applications.

Workshop#2: Retrieval Augmented Generation Workshop

Description

Retrieval Augmented Generation (RAG) workshop is designed to explore the synergy between information retrieval and text generation. Participants will gain hands-on experience with cutting-edge tools, learn optimized practices for implementing RAG systems. Through the interactive session, this workshop will empower attendees to leverage RAG for enhanced productivity and innovative solutions in their organizations.

Trainer Profile

Cliff Ho is a senior data scientist working at a pioneering company in accelerated computing, with a research focus on utilizing AI to accelerate scientific research. He is a research engineer by education, having graduated from ETH Zurich. During his early career, he spent his time researching micro- and nanoparticle technology in academic and industrial laboratories.

Workshop#3: Micro-Electronics Program

Description

This workshop offers an in-depth exploration of the fundamentals of microelectronics, complemented by hands-on experience. Participants will learn to design and create their first printed circuit board (PCB) using the EasyEDA online platform. Additionally, Student will engage in introductory experiments in digital circuit and chip design, tackling logic circuit challenges. The workshop will culminate in a demonstration of logic design using Semtron Studio, showcasing the application of a FPGA car. This engaging experience will equip participants with essential knowledge and skills in microelectronics through practical application.

Trainer Profile

Alex Leung graduated from the HKUST, majoring in ECE. With extensive experience in STEM education, Mr. Leung is committed to advancing STEM and microelectronics education in Hong Kong, helping students progressively learn programming and related scientific concepts, while nurturing the next generation of research talent in the region.

Workshop#4: Introduction of Embedded System Development

Description

This workshop will primarily cover the introduction and hand-on for product/application development by embedded system development tools.

- A. Embedded System Development Tools : (1) Introduction to the development environment: Arduino IDE, Compilers, debuggers, and other essential tools. (2) Setting up the development environment: Installing the software and configuring development board and tools
- B. Hands-On Embedded Systems Development [ESP32-S3] : (1) Hardware architecture overview: Key features and specifications of the microcontroller board. (2) Programming the ESP32 [Hands-on Exercise] : Blinking an LED, Connecting to Wi-Fi, simple IoT applications
- C. How to Choose an ESP32 Development Board : This part will cover the factors for selection of hardware boards, microcontroller specifications (CPU, memory, peripherals), Onboard features (Wi-Fi, Bluetooth, GPIO, ADC, etc.), Community support and availability of libraries/examples.

Trainer Profile

Joyce Ye is currently an undergraduate of Biochemistry and Cell Biology at HKUST. She is not only studying in biotechnology and healthcare knowledge but also passionate and specializing in hardware and software engineering in robotic and IoT application design and development. She has been researching and working with different microcontroller platforms in the past three years, with an emphasis on embedded systems and robotics hardware. As a trainer, the goal is to share her practical experiences and insights in a way that is accessible and engaging.

Workshop#5: Cybersecurity Awareness Workshop

Description

Living in an era of fast-growing technology, cybersecurity has been an essential skill and knowledge to protect ourselves in the virtual world. This workshop aims to increase students' cybersecurity awareness via introducing some basic and common concepts. Topics might include but not limited to social engineering, cyber threat, password cracking, network sniffing etc. To deepen students' understanding and increase their learning effectiveness, videos and hands-on demonstrations are provided.

Trainer Profile

Ancus Lau is a recent graduate from HKUST. She holds a Bachelor degree of Engineering in Computer Science, with a minor in Psychological and Behavioural Science. She has been working as an intern in a consulting company, specializing in cyber incident response and cyber threat intelligence. In addition, she has received two cybersecurity related certifications: GIAC Certified Forensic Analyst (GCFA) and GIAC Reverse Engineering Malware (GREM). She will be working as a cybersecurity analyst in the upcoming quarter of 2024.

Remarks:

- Participants are by invitation.
- The Organizer reserves the right to make any changes without notice.