2024 Summer Camp Program, College of Electrical Engineering and Computer Science at CYCU, Taiwan
Opportunity to Explore Taiwan!

2024 Summer Camp Program enable students from all over the world to spend a summer taking courses at Chung Yuan Christian University (CYCU) and exploring Taiwan. With program that cover topics from Electrical Engineering, Electronics Engineering, Computer Science and Engineering, and Industrial and System Engineering, students will not only attend lectures but will also have field trips to appreciate and enjoy Taiwan's summer heat.

The main campus of Chung Yuan Christian University is located in downtown area in Chung-Li city. It takes 30 minutes of driving to get to the Taoyuan International Airport and 10 minutes walking to the Taiwan Railway Administration (TRA) (Chung-Li Station). It provides train connections to Taipei city for only 40 minutes. The Taiwan High Speed Rail (THSR) station is also located nearby. Free shuttle buses are provided from downtown to THSR station every 15–20 minutes. Famous night market is just beside the CYCU campus. You can find many delicious Taiwanese local food there with reasonable price.

Faculty members of the College of Electrical Engineering and Computer Science are engaged in the following research groups:

◆ **Power & Energy**

Focus on smart grid, microgrid, intelligent computation, wind power system, solar power systems, power quality, railway power system, damage diagnosis (partial discharge) and protective relaying. Four laboratories are included- intelligent system on power engineering research lab, electrical power and environment research lab, power system and energy research lab and smart grid research lab.

◆ **Control Systems & Consumer Electronics**

Focus on advanced signal processing and control systems integration. The latest research encompasses wide range of designs including state-of-the-art medical devices, audio and acoustic signal processing, digital signal processing, active noise control, control system, robotics control, intelligent control and nonlinear control application.

◆ **Computer Networks & Telecommunications**

Focus on software defined networking (SDN), streaming data processing, and system design of IoT for smart home applications. The main strengths and specialties include network security, queuing theory, network coding and FPGA system design for high speed networking systems.

◆ **Semiconductor**

The research fields and courses of semiconductor group focus on device electronics for integrated circuits, nano-optoelectronic materials & devices, quantum electronic material & devices, ULSI manufacturing technology, microelectronic package, coating and processing of optical thin film, nano-optoelectronic device, 2D material devices, quantum device.

◆ **Chip Design**

The research fields and courses of chip design group focus on electronic design automation, clock tree synthesis, active circuit analysis and design, electronic circuit, circuit theory,

multimedia IC and system design, wireless sensor network, VLSI testing and design for testability, reconfiguration algorithms for memories, RF integrated circuit design, embedded system, vehicle network.

◆ **Communication System**

The research fields and courses of communication system group focus on data compression, pattern recognition, digital signal processing, intelligent assistive technology, electromagnetic compatibility, power integrity analysis for high-speed circuit package, spread-spectrum, coding theory, mobile computing and positioning, wireless and mobile communication network, mathematical methods and modeling in data science.

◆ **Production Systems**

The means by which we transform resource inputs to create useful goods and services as outputs.

◆ **Quality Management**

It emphasis on finding and correcting defective products before they reached the market.

◆ **Global Logistics and Supply Chain**

Deal with all the organizations, facilities, materials, and activities involved in producing and delivering a product or service, from the initial suppliers to the final customers.

◆ **Operations Research**

Research on operations, i.e., it concerns how to conduct and coordinate the operations within an organization.

◆ **Information Systems**

The utilization of information technology to help an organization operate effectively and efficiently.

◆ **Human Factors**

The human factor is also named as ergonomics, is deal with the interaction or interface between human and tools, machines to improve the performance of systems by revising or promoting the affecting factors.

◆ **Computer Hardware Design and Design Automation**

The research fields and courses of computer hardware design and design automation group focus on SOC/ESL design, higher performance computing architecture, multiprocessor design, embedded system application, VSLI synthesis and design automation, AI accelerator design. Digital IC design, software hardware Co-design.

◆ **Software and Information Engineering**

The research fields and courses of software and information engineering group focus on big data analysis, text and knowledge analysis, neural networks, machine learning and artificial intelligence, data mining, data base systems, social network analysis, data streaming, natural language processing, e-Learning, learning technologies, learning performance analysis, associative reasoning, computer aided instruction and learning strategies.

◆ **Multimedia and Intelligent Computing**

The research fields and courses of multimedia and intelligent computing group focus on computer graphics, scientific visualization, biomedical applications, image and video processing, computer vision, artificial intelligence, bio-medical image processing, quantum computing, multimedia retrieval, video surveillance, deep learning, machine learning, pattern recognition, virtual reality, augmented reality.

◆ **Computer Network System and Security**

The research fields and courses of computer network system and security group focus on system and network security, software security, computer networking, network protocols, parallel and distributed computing, cloud computing, peer-to-peer network, federated learning, internet measurement.

Summer Camp Program
2024/08/01-2024/08/21

EXPLORE TAIWAN

Location

Taiwan's total land area is about 36,000 square kilometers. It is shaped like a leaf that is narrow at both ends. It lies off the southeastern coast of mainland Asia, across the Taiwan Strait from China - an island on the western edge of the Pacific Ocean.

Climate

Weather conditions fluctuate during spring and winter, while in summer and autumn the weather is relatively stable (average temperature 28 degrees Celsius). Taiwan is extremely suitable for traveling, as the annual average temperature is a comfortable 22 degrees Celsius.

Language

The official language of Taiwan is Mandarin Chinese; but because many Taiwanese are of southern Fujianese descent, Minnan (the Southern Min dialect or Heluo) is also widely spoken.

Travel in Taiwan

Taiwan is known for its towering mountains and, indeed, is spotted with numerous mountains peaks that rise over 3,000 meters. It is also the home of Northeast Asia's tallest mountain, Yu Mountain (Yushan), which is nearly 4,000 meters in height. Besides mountains, beautiful coastal scenes are part of Taiwan's great natural assets. Starting from the northern tip of the island is the North Coast & Guanyinshan National Scenic Area and Northeast and Yilan Coast National Scenic Area, featuring a wide variety of coastal geography.

Living Expense

The living expense in CYCU is about _USD 300_ (NT10,000) per month.

Field Trip

Jiufen

Shifen Old Street

CKS Memorial Hall

Ximending

Taipei 101

Things to do:

1. Doing project with EECS professors and graduated students.
2. Visiting Taiwan famous landscapes and tasting delicious local foods.
3. Experiencing different cultures, making friends from all over the world.

Program Time: 2024/8/1 – 2024/8/21

We provide pick up (2024/7/31) and drop off (2024/8/22) service at Taoyuan airport (TPE) at a particular time.

Where to live during your stay:

CYCU Students' Dormitory :

https://oosa.cycu.edu.tw/%E5%AD%B8%E7%94%9F%E5%AE%BF%E8%88%8D%E4%BB%8B%E7%B4%B9/

Program Fee:

The camp program fees is USD 650 (NTD 20,000) per person. Accommodation fee, lectures, laboratory, airport pick up/drop off, field trips and some meals are included.

Payment:

We **accept CASH or International Wire Transfer**.

For CASH: We will collect CASH (NTD only) at 09:00 a.m., August 1ST before Opening Ceremony at Electrical Engineering Building

For International Wire Transfer:
We like to **kindly ask a coordinator in each university to collect the payment** from participates and do the International Wire Transfer to minimize the payment difficulties. In case if coordinator in each university done the payment please send a confirm E-mail including name who already pay and bank account number to hsiehchenchen@cycu.edu.tw

 or fill out the google form https://forms.gle/sELy9UmA3yvHRVhx6

Please transfer your program fee in **UNITED STATES DOLLAR.**

Application process:

1. Fill out form on https://forms.gle/sELy9UmA3yvHRVhx6 before the deadline of registration: **May 16, 2024.**
2. Do the **wire transfer and fill out the form https://forms.gle/J8bvKv83zhQ8HVph7 before *June. 30, 2024* or pay by cash on the registration day *Aug 1, 2024* for the program fee.**

PS. WE STRONGLY SUGGEST YOU TO TAKE OUT A HEALTH INSURANCE IN YOUR COUNTRY BEFORE THE PROGRAM STARTS.

To get more information please email to: hsiehchenchen@cycu.edu.tw

2024 Summer Camp Program for College of Electrical Engineering and Computer Science at CYCU (Tentative Schedule)

Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
07/28	07/29	07/30	07/31 **Pick-up Service**	8/**01** 10:30~12:00 Opening Ceremony Electrical Engineering Building 105 14:00-17:00 Projects	02 09:10-17:00 Projects	03
04	05 09:10-12:00 Lecture ①: 14:00-17:00 Projects	06 Field Trip (暫定) • Taipei 101 台北 101 • CKS Memorial Hall 中正紀念堂 • Ximending 西門 町	07 09:10-17:00 Projects	08 09:30-12:00 Lecture ②: 14:00-17:00 Projects	09 09:10-17:00 Projects	10
11 全校 停電日	12 09:10-12:00 Lecture ③: 14:00-17:00 Projects	13 Field Trip (暫定) • Jiu Fen Old Street 九份老街 Shifen Old Street 十 分老街	14 09:10-17:00 Projects	15 09:30-12:00 Lecture ④: 14:00-17:00 Projects	16 09:10-17:00 Projects	17
18	19 09:10-17:00 Projects	**20** 09:10-17:00 Projects	21 *Closing* 09:00~16:00 Project Presentation 17:30-20:00 Award Ceremony, Closing Ceremony and Banquet	22 Drop-off Service	23	24

●Lecture room: Electrical Engineering Building 105(電學 105) ●Field Trip assembling place: in front of the Electrical Engineering and

Computer Science Building on time (篤信大樓前準時集合)●Project room: Project Laboratory (專題研究室)

Tentative Lecture Topics :

1. Active Noise Cancelation and Applications
   Prof. Cheng-Yuan Chang

2. Chaos and fractals
   Prof. Shih-Hsiung Twu

3. Introduction to Coding Theory
   Prof. Jia-Ying Wang

4. Robotic and Intelligent Control System
   Prof. Chian-Song Chiu

5. Power Electronics and Induction Machinery
   Prof. Guan-Chyun Hsieh

6. Digital Image Halftoning Techniques and Signal Processing
   Prof. Wen-Liang Hsue

7. It's the show time

8. Introduction to CYEE International Program

9. Software Defined Networking and FPGA Systems Design
   Prof. Yu-Kuen Lai

10. Microgrid : Increasing Penetration of Renewables in Power Systems
   Distinguished Professor: Ying-Yi Hong

11.Biomedical Device & Bio-signal/image Processing
   Distinguished Professor: Kang-Ping Lin

12. Audio Signal Processing and Active Noise Cancelation with Applications
   Prof. Cheng-Yuan Chang

Behind the Scenes

Photos of 2017-2020, 2023 Summer Internship

In 2018 we have 32 local students and 82 foreign students from University of Sumatera Utara (Indonesia), Kansai University (Japan), Mapúa University (Philippines) and Ho Chi Minh City University of Technology and Education (Vietnam), total 114 students join this event.

We have 26 local students and 69 foreign students from Kansai University (Japan), Mapúa University (Philippines), National University Manila、Mapúa Malayan Colleges Mindanao and Technological Institute of the Philippines, total 95 students join this event.

This year we hope you will join us in 2024 summer camp!!