TEEP

靜宜大學國際暨兩岸事務處
Office of International and Cross-Strait Affairs

TAIWAN EXPERIENCE
EDUCATION PROGRAM

1. Artificial intelligence, Augmented reality

TAIWAN EXPERIENCE
EDUCATION PROGRAM

【Program Research Projects】

- Augmented Reality This project is dedicated to the research of Software as a Service (SaaS) systems, utilizing artificial intelligence(AI) for identify cation and tracking. Through augmented reality (AR), it aims to achieve virtual wearable applications. This digital content can be applied to e-commerce, media advertising, and related digital industries, fostering innovative immersive and interactive media. It allows consumers to experience virtual try-on services online before making purchases, thereby reducing issues related to inadequate store sizes and enhancing the online shopping experience. In the current year, our research will take a step further by expanding AI tracking and recognition technologies, extending from facial and hand recognition to various parts of the body. This advancement holds the promise of bringing more innovation and convenience to both businesses and consumers. We have great confidence in the future of this research.

- AI Hand Sign Language Education We employ body tracking technology, known as Pose-Tracking, in conjunction with machine learning frameworks, to accurately identify and translate sign language meanings from continuous webcam images. This revolutionary system enables real-time sign language detection, providing a more intuitive and seamless means of communication for the deaf and mute community. It not only makes it easier for them to express themselves but also facilitates their understanding of others' intentions, breaking down communication barriers and fostering interaction and exchange among diverse cultures. The potential applications of this technology are extensive. It can assist not only the deaf and mute in their daily lives but also find applications in education, healthcare, and social contexts. It brings us a future that is more inclusive and accessible, allowing everyone to participate in the development of a multicultural society. We look forward to the continuous evolution of this technology, bringing positive changes to the lives of many and promoting the human-centered use of technology.

【Project Objectives】

The purpose of this program is to study the practical application of artificial intelligence in computer vision and augmented reality. Interested students are cordially invited to join us.

【Project Start and End Time】

-Program Info

Topic: Artificial intelligence, Augmented reality
Contains:
Location: Providence University, Taichung, Taiwan
Duration: 6 months (From April 1, 2024, to October 31, 2024)
Vacancy: 3
Offering: Monthly scholarship of 10,000 NTD along with on-campus dormitory accommodation.

Project phases:

1.Using artificial intelligence and computer vision to recognize and detect various key points on the human body for virtual try-on.
2.Extending the pre-trained AI body model for further application in sign language recognition.

TAIWAN EXPERIENCE EDUCATION PROGRAM

2. Circular Economy and Sustainability Disclosures

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This program has two main purposes:

(1) To guide international students to understand how Taiwanese industries formulate and implement carbon emission reduction, waste management, toxic substances management, and water/energy/other resource management and reuse in accordance with GRI standards
(2) To guide international students to understand how Taiwanese companies disclose their efforts and contributions to the circular economy through the preparation of sustainability reports, and how this sustainable development information affects the companies themselves and their stakeholders.

This program will be carried out through the course, which mainly include four parts:

(1) Introduction to the basic concepts of circular economy
(2) Introduction to Global Reporting Initiative (GRI) standards and Task Force on Climate-related Financial Disclosures (TCFD)
(3) Introduction to Sustainability reports
(4) Short-term internship and special project

During the course, the instructor will invite managers of a partner company to provide collaborative guidance and have students to visit partner companies。

During the visit to the partner companies, student will learn what wastes the companies emit, how much they emit, how they measure carbon emissions and implement carbon emission management, and how they reuse recyclable wastes。 Finally, students will be required to write a brief sustainability report for the companies they are interviewing with。

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Location: Providence University, Taichung, Taiwan
Duration: 4 months (from Sep. 2024 to Janu. 2024)
Vacancy: 4
Requirement: Relevant background knowledge
Offering:
Monthly scholarship of 10,000 NTD along with on-campus dormitory accommodation.

TAIWAN EXPERIENCE EDUCATION PROGRAM

3. Developing Organic/Inorganic Functional Materials for Solar Cell and Lithium-ion battery Applications

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[1] This project focuses on the development of "Novel Energy Harvesting and Storage Technology." Students joining this laboratory will actively participate in advanced materials research for next-generation solar cells and lithium-ion batteries. This involves the development of organic/hybrid materials, optimization of battery technologies, research publication, and the opportunity to enroll in courses related to green energy technologies, semiconductor, and opto-electronic materials. During the internship, students can expect comprehensive training in cutting-edge green energy technology, providing a strong foundation for further education.

[2] Our program is open to both undergraduate and graduate students majoring in chemistry-related fields, regardless of their nationality. Internships are designed to last for a college semester, typically spanning 4 to 6 months starting from September 2024.

[3] We offer essential resources, including experimental equipment, consumables, weekly internship progress discussions, and modest stipends to cover living expenses.

TAIWAN EXPERIENCE EDUCATION PROGRAM

Program Info

Topic: Developing Organic/Inorganic Functional Materials for Solar Cell and Lithium-ion battiery Applications

Contains:

Location: Providence University, Taichung, Taiwan

Duration: 4 to 6 months starting from September 2024.

Vacancy: 4

Requirement: Chemistry or related background

Offering: Monthly scholarship of 10,000 NTD along with on-campus dormitory accommodation.

TAIWAN EXPERIENCE EDUCATION PROGRAM

4. Green synthesis of Ag-TiO2 nanocomposites as sunscreen ingredients

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"Green synthesis of Ag-TiO2 nanocomposites as sunscreen ingredients" may encompass the following content:

Introduction:
Introduction to the application of nanotechnology in the cosmetics industry.
Importance of sunscreen products and current challenges in the market.
Introduction of Ag-TiO2 nanocomposites as potential green sunscreen ingredients.
Green synthesis method of Ag-TiO2 nanocomposites:

Explanation of the reasons for using green synthesis methods, such as reducing environmental impact and minimizing the use of harmful substances.
Detailed description of the steps involved in synthesizing Ag-TiO2 nanocomposites, potentially involving eco-friendly methods like plant extracts or microbial synthesis.
Characterization of nanocomposites:

Characterization of the structure, morphology, and chemical composition of Ag-TiO2 nanocomposites.
Use of various instruments (such as TEM, XRD, FTIR, etc.) for comprehensive analysis to confirm successful synthesis and evaluate stability.
Sunscreen performance assessment:

Testing the absorption performance of Ag-TiO2 nanocomposites under different wavelengths of light.
Evaluating their effectiveness as sunscreen ingredients by assessing their blocking effect against ultraviolet radiation.
Biocompatibility and environmental friendliness:
Assessing the biocompatibility of Ag-TiO2 nanocomposites through cell experiments and skin irritation tests.
Exploring potential environmental impacts, such as ecological toxicity and risk assessment.

Program Info
Topic: Cosmetic Chemistry (raw material processing)
Contains: Course and lab work
Location: Providence University, Taichung, Taiwan
Duration: 4 to 6 months starting from September 2024.
Vacancy: 3 students
Requirement: Chemistry or cosmetic science related major
Offering: Monthly scholarship of 10,000 NTD along with on-campus dormitory accommodation.

-Program details
Courses: Cosmetic Chemistry;
Language learning (Chinese) Research:
Green synthesis of sunscreen ingredients
Each TEEP participant will be encouraged to complete a minor science project (e.g. a conference poster) at the end of the program.

TAIWAN EXPERIENCE EDUCATION PROGRAM

5. Internship Program for Biotech-based Cosmetics

TAIWAN EXPERIENCE EDUCATION PROGRAM

Project background:

This project is expected to recruit students from “New Southbound Countries” to Taiwan to study the development of biotech-based cosmetics, and to intern in the industry during their studies to understand the actual operation of the industry and also accumulate their industry experiences. In addition to cultivating excellent international talents in biotech cosmetics, it is also expected to increase the opportunities for students from New Southbound Countries to further pursue degrees in Providence University.

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Program Info

Topic: Internship Program for Biotech-based Cosmetics
Contains:
(1) Lab study Professor's publications: https://orcid.org/0000-0002-4664-2995
(2) Chinese language courses
(3) Cosmetic science related courses Short-Term internship (optional): Internship opportunity in cosmetic company
Duration: 1-month internship (at most)
Content:
(A) R&D of Biotech-based cosmetics;
(B) Semi-finished product inspection (Q.C.);
(C) Commercial product development (P.M.)
Location: Providence University, Taichung, Taiwan
Vacancy: 3 students
Duration: 6 months (at most)
Requirement: Biotechnology, chemistry or cosmetic science related majors
Offering: Monthly scholarship of 10,000 NTD along with on-campus dormitory accommodation.

TAIWAN EXPERIENCE EDUCATION PROGRAM

6. Understanding the Decision-Making Journey of Northeastern Indian Laborers on Employment Prospects in Taiwan

TAIWAN EXPERIENCE EDUCATION PROGRAM

Taiwan is the global leader when it comes to cutting-edge semiconductor design and manufacturing. Taiwan’s excellence is not limited to semiconductors but it extends to several industries such as electronics, petrochemical, construction, machinery, transportation, shipping, telecommunication, etc.

Taiwan’s service sector is also one of the prominent sectors that contribute significant amount of its GDP. Taiwan's success comes from several factors, such as innovation, advanced technology, and effective government policies. A substantial credit goes to Taiwan’s skilled workforce in shaping the success of any industry.

Likewise, the success can also be attributed to semi-skilled laborers/workers who play a key role in providing invaluable support for the success of any organization. However, for Taiwan, labor shortage is not a new challenge, but it is experiencing labor shortage for at least past twenty years. To meet the shortage, many workers from South-East Asia, particularly from Thailand, Indonesia, and Vietnam have been working in various sectors in Taiwan. Despite their support, today, Taiwan is experiencing heavy worker shortage, especially in construction, manufacturing, healthcare, and several other services sectors.

Given the contemporary decline in Taiwan’s population and the intensified labor shortage issue, there is speculation that about 400,000 foreign workers will be needed by 2035. This strategic move is seen as an effort to enhance competitiveness with China, Korea, and other nations. To achieve these abovementioned goals, Taiwan has decided to open gates for Indian workers in late 2023.

It is speculated that Taiwan prefers to have Northeastern India workers due to their cultural and dietary resemblance. In the light of above discussion, the primary objective of this project is to investigate Northeastern Indian Laborers' decision-making factors/process while exploring employment prospects in Taiwan. The secondary objective is to identify workers' preferred sectors of work.

For addressing Taiwan's current labor shortage, it is crucial to have a smooth, seamless, and reliable supply of workers. We hope that the results of the project will improve employers' understanding of the decision-making factors influencing Northeastern Indian workers. A smooth seamless and reliable supply of workers is essential for addressing challenges of Taiwan’s contemporary labor shortage problem. We hope that the findings of this project will improve employers’ understanding on Northeastern Indian workers’ decision making factors. Finally, it will also help workers with a comprehensive set of factors to consider when heading abroad for the employment.

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-Program Info
Topic:
Contains:
Location: Providence University, Taichung, Taiwan
Duration: 2 months
Vacancy: 1
Requirement:
Offering: Scholarship of 10,000 NTD along with on-campus dormitory accommodation.

-Program details
Courses:
Language learning (Chinese) Research:

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