REPORT

Asian Summer School in Bangkok 2024

Geoinformatics for Sustainable Development

26 August - 6 September 2024

CHUBU UNIVERSITY · AICHI JAPAN

ASIAN INSTITUTE OF TECHNOLOGY · 1959

Sponsors Support:

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1. Summary

Chubu Institute of Advanced Studies, Chubu University, and Remote Sensing and GIS (RS&GIS) Field of Study jointly organized the "Asian Summer School in Bangkok 2024" program from 26th August to 6th September 2024 at Asian Institute of Technology, Pathum Thani, Thailand. The theme of the program was "Geoinformatics for Sustainable Development". A total of 18 participants, 5 nationalities, came from 7 universities located in 5 different countries participated in this program. The average age of participants in the summer school is 21 years old. From Japan, nine participants from Chubu University joined. Among participants from Japan, there are eight undergraduate students (Computer Science, Mathematics, Food and Nutritional Sciences, Aerospace, English and English culture, Occupational therapist) and one graduated student (Biochemistry). For non-Chubu students, There are nine undergraduate students: three Thai students from Kasetsart University (Department of Geography) and Srinakharinwirot University (Department of Geography), three Filipino students from Visayas State University (Department of Geodetic Engineering) and University of San Carlos (Computer Science, Information Technology), one Laotian student from National university of Laos (Environmental science), and two Vietnamese students from Thu Dau Mot University (Resource and environmental management, Environmental management). The summary of participants is present in Table. 1.

Several lectures and field trips were conducted during the 11 days of this program. 17 lecturers are from different Fields of Study in AIT (Remote Sensing & GIS, Computer Science and Information Management, Industrial Systems Engineering, Environmental Engineering, Water Engineering and Management, Disaster Preparedness, Mitigation and Management, School of Management) In addition, six external lecturers are from other organizations which is Sirindhorn international institute of Technology, Thammasat University, National Electronics and Computer Technology Center (NECTEC) and Chubu University. Moreover, four visits and field trips were conducted to connect what participants learned from lectures with the real world. Participants visited Geo-Informatics and Space Technology Development Agency (GISTDA) and Spece Inspirium, Kubota smart farm, Electricity Generating Authority of Thailand (EGAT), and Ayutthaya cultural trip. Furthermore, it is also to stimulate motivation of undergraduate students to endeavor their own research.

English is used as the main communication in lectures and daily life during the program. It made a deep impression of importance of globalization to the participants. During the program, we also requested participants to share their background of study and working, interest and expertise that crossed cultural and disciplinary boundaries. Aside from study, the participants made new friends from different countries as the international society and built up good relationship and connection for support each other in the future. At the end of the program, we received good responses and many positive comments referring to a wonderful time they obtained during the program. This supports the fact that Asian Summer School in Bangkok 2024 Program ended in large success.

Since 2009, Chubu University and AIT build a cooperative relationship, especially in the field of Geoinformatics and sustainable development. In September, 2011, Chubu University and AIT agreed on the Memorandum of Understanding about the academic cooperation. This Asian Summer School program falls within the scope of the Memorandum of Understanding between Asian Institute of Technology and Chubu University dated September 16, 2011. This program is also planned by Chubu University as a milestone towards Asia Campus project of MEXT, Japan, for which Chubu University and AIT jointly applying.

Table. 1 Summary of participants

No.	Name	Age	Sex	Country	Grade	Field of study	University/Organization
1	Shinji Wakita	20	M	Japan	UG3	Computer Science	Chubu University
2	Mihaya Nakagawa	19	F	Japan	UG2	Mathematics	Chubu University
3	Kota Handa	21	F	Japan	UG3	Food and Nutritional Sciences	Chubu University
4	Chihaya Nakagawa	19	F	Japan	UG2	Mathematics	Chubu University
5	Hiiro Torii	20	M	Japan	UG2	Aerospace	Chubu University
6	Kodai Koguchi	23	M	Japan	UG3	Aerospace	Chubu University
7	Riko Tsuji	21	F	Japan	UG3	English and English culture	Chubu University
8	Mio Takagi	21	F	Japan	UG4	Occupational therapist	Chubu University
9	Seira Kusaka	23	F	Japan	GD	Biochemistry	Chubu University
10	Ivy Perez	21	F	Philippine	UG4	Geodetic Engineering	Visayas State University
11	Pakin Santaweesuk	21	M	Thailand	UG4	Geography	Kasetsart University
12	Prasone Khaosaath	19	F	Lao	UG1	Environmental science	National university of Laos
13	Artitaya Junraksasakul	21	F	Thailand	UG4	Geography and Geoinformatics	Srinakharinwirot University
14	Sunattha Lalaeng	22	F	Thailand	UG4	Geography and Geoinformatics	Srinakharinwirot University
15	Ngo Tran Sang	21	M	Vietnam	UG4	Resource and environmental management	Thu Dau Mot University
16	Le Hoang Thai Son	20	M	Vietnam	UG4	Environmental management	Thu Dau Mot University
17	Mary Chevel P. Modesto	20	F	Philippine	UG3	Computer Science	University of San Carlos
18	Josh Edward Lui	20	M	Philippine	UG2	Information Technology	University of San Carlos

2. Purpose

The participants will learn issues what related to sustainable development in Asia, GIS, and how does it contribute to issues. Then they will understand the present situation and problems of Asian countries prosperously developing, and the value of GIS as a tool. Also, they will realize the rapid progress and problems accompanying the advance in Asia through field trip. All lectures will be delivered in English. The participants will experience absorbing knowledge in English and understand its importance. This summer school will help participants have international sense and awareness of the problem for the participants' thesis.

3. Program Admission

There are a totally 52 applicants from 10 countries who applied for Asian Summer School in Bangkok 2024. The age of applicants ranges from 19 to 43 years old and most of them are 20–30-year-old.

The Percentage of Applicants by Nationalities From 52 Partcipants

- Bangladeshi
- Cambodian
- Filipino
- Indian
- Laotian
- Nepalese
- Nigerian
- Pakistani
- Thai
- Vietnamese
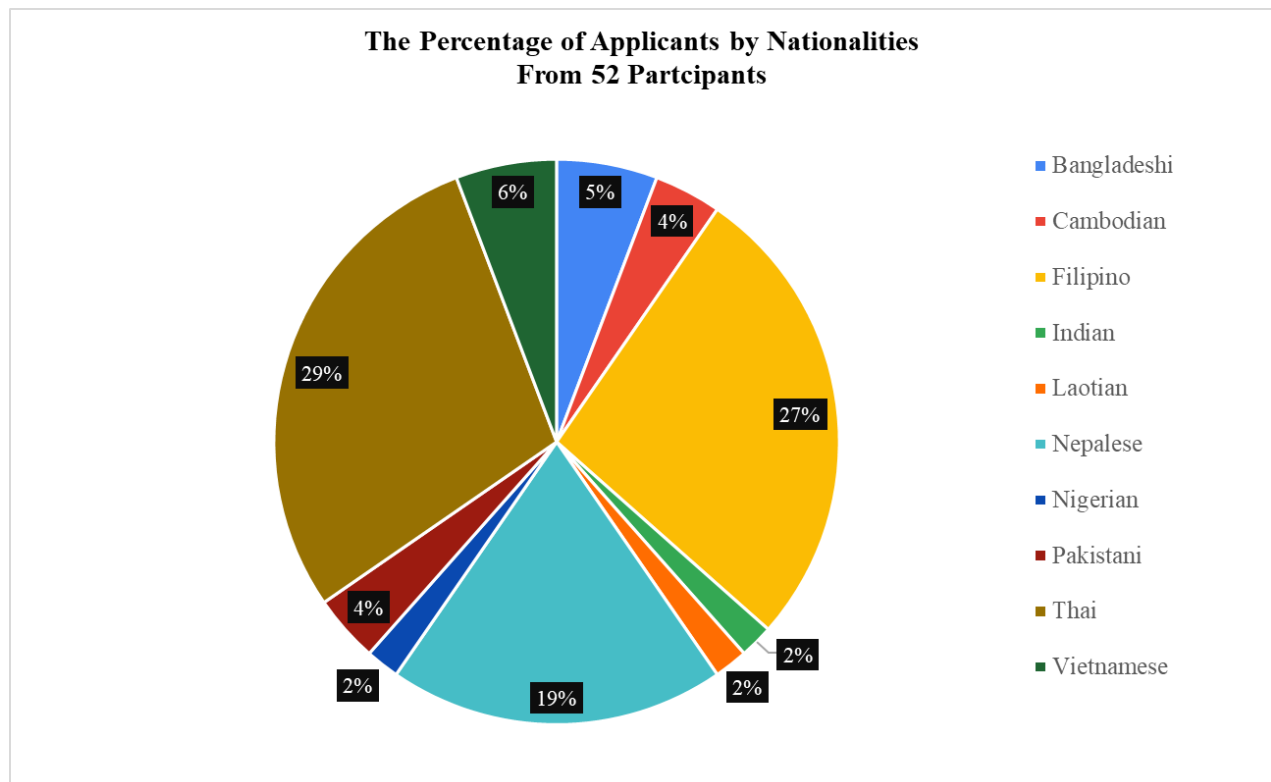
In order to select potential candidates, Dr. Sarawut and Dr. Nobuya, coordinator of the program, made a decision based on certain criteria, background of study, experience, and potential to explore research interest from the program.

4. Participants

Universities:

Chubu University

Kasetsart University

National University of Laos

Srinakharinwirot University

Thu Dau Mot University

University of San Carlos

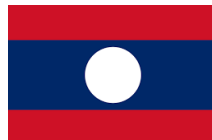

Visayas State University

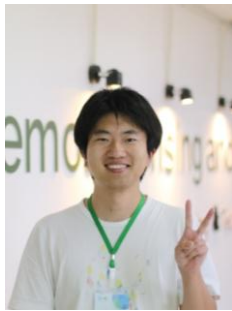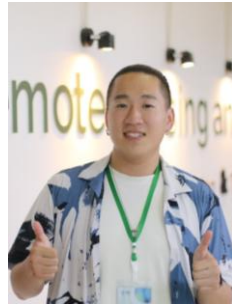**Countries:**

Japan

Philippines

Thailand

Vietnam

Laos

Participants：

Chubu University

Kodai Koguchi
(Japanese)
3rd year - undergraduate student
Aerospace

Shinji Wakita
(Japanese)
3rd year - undergraduate student
Computer Science

Mihaya Nakagawa
(Japanese)
2nd year - undergraduate student
Mathematics

Kota Handa
(Japanese)
3rd year - undergraduate student
Food and Nutritional Sciences

Riko Tsuji
(Japanese)
3rd year - undergraduate student
English Language and Culture

Chihaya Nakagawa
(Japanese)
2nd year - undergraduate student
Mathematics

Seira Kusaka
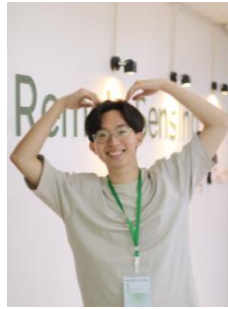(Japanese)
Master student
Biochemistry

Hiiro Torii
(Japanese)
2nd year - undergraduate student
Aerospace

Mio Takagi
(Japanese)
4th year - undergraduate student
Occupational therapist

Visayas State University	University of San Carlos

Ivy Perez
(Filipino)
4th year - undergraduate student
Geodetic Engineering

Josh Edward Lui
(Filipino)
2nd year - undergraduate student
Information Technology

Mary Chevel P. Modesto
(Filipino)
3rd year - undergraduate student
Computer Science

Thu Dau Mot University	Kasetsart University

Le Hoang Thai Son
(Vietnamese)
4th year - undergraduate student
Environmental Management

Ngo Tran Sang
(Vietnamese)
4th year - undergraduate student
Resource and Environmental
Management

Pakin Santaweesuk
(Thai)
4th year - undergraduate student
Geography

Srinakharinwirot University	National University of Laos

Sunattha Lalaeng
(Thai)
4th year - undergraduate student
Geography and Geoinformatics

Artitaya Junraksasakul
(Thai)
4th year - undergraduate student
Geography and Geoinformatics

Prasone Khaosaath
(Lao)
1st year - undergraduate student
Environmental science

5. Lecture Program

Date	Topic	Lecturer/Facilitator
26 Aug	Toward social implementation of Digital Earth	Prof. Hiromichi Fukui
	Utilization of Geoinformatics in the field of archaeology	Dr. Nobuya Watanabe
	BigData and AI technology in urban application	Dr. Sarawut Ninsawat
27 Aug	New Trends in Innovation Management: Users, Open, and Crowdsourcing Innovation	Prof. Yuosre Badir
	Understanding the mechanisms of large language model and its limitations	Dr. Chaklam Silpasuwanchai
	Cybersecurity Awareness	Dr. Chantri Polprasert
28 Aug	Hand on: Machine Learning 101 Practice	Dr. Sanit Arunplod & Assistant
	Hand on: Geospatial Analysis using Free Open Source Software (FOSS)	Dr. Chitrini Mozumder
30 Aug	Geospatial technologies for health	Prof. Nitin Kumar Tripathi
	Ethical and Trustworthy AI	Dr. Apivadee Piyatumrong
	Innovation in air quality management	Dr. Ekbordin Winijkul
2 Sep	BigData and IoT	Dr. Apichon Witayangkurn
	Research and development in practice	Dr. Teerayut Horanont
	Remote Sensing and Artificial Intelligence for Crop Stress and Health Monitoring	
3 Sep	Climate Change Impacts on crop production in ASIA-Pacific	Dr. Mohana Sundaram
	Land Information for Climate and Environmental Research	Dr. Natthachet Tangdamrongsub
	Basic of UAV and UAV flight operations	Dr. Sanit Arunpold
4 Sep	Hand on7: UAV, GNSS experiment in the field	Dr. Sanit Arunpold
5 Sep	Nanotechnology: the enabling technology for 21st century	Dr. Tanujjal Bora
	Geospatial technologies for urban sustainability	Dr. Chitrini Mozumder
	Disaster Mitigation and Preparedness	Dr. Indrajit Pal

6. Field Trip Program

Date	Field Visiting
29 Aug	GISTDA
	Kubota farm
31 Aug	Ayutthaya cultural
4 Sep	Electricity Generating Authority of Thailand (EGAT)

7. Comments on Lectures

All participants were requested to give feedback on the lecturers by submitting homework every day. The main purpose of a homework is to obtain what the participants have learned from the lecture and also, to get the comments and suggestions for further improvement. The table below presents the result of participants' submissions.

Name	August 2024						September			
	26	27	28	29	30	31	2	3	4	5
Ivy Perez	O	O	O	O	O	O	O	O	O	O
Josh Edward Q. Lui	O	O	O	O	O	O	O	O	O	O
Mary Chevel P. Modesto	O	O	O	O	O	O	O	O	O	O
Prasone Khaosaath	O	O	O	O	O	O	O	O	O	O
LE HOANG THAI SON	O	O	O	O	O	O	O	O	O	O
Ngo Tran Sang	O	O	O	O	O	O	O	O	O	O
Pakin Santaweesuk	O	O	O	O	O	O	O	O	O	O
Sunattha Lalaeng	O	O	O	O	O	O	O	O	O	O
Artitaya Junraksasakul	O	O	O	O	O	O	O	O	O	O
Seira Kusaka	O	O	O	O	O	O	O	O	O	O
Mio Takagi	O	O	O	O	O	O	O	O	O	O
Shinji Wakita	O	O	O	O	O	O	O	O	O	O
Kodai Koguchi	O	O	O	O	O	O	O	O	O	O
Riko Tsuji	O	O	O	O	O	O	S	S	S	S
Kota Handa	O	O	O	O	O	O	O	O	O	O
Chihaya Nakagawa	O	O	O	O	O	O	O	O	O	O
Mihaya Nakagawa	O	O	O	O	O	O	O	O	O	O
Hiiro Torii	O	O	O	O	O	O	O	O	O	O

The meaning of the symbols

    O = Submitted
    X = Not submitted
    S = Cannot attend because of sick

In this section, each lecture will be briefly described and some of the comments from participants related to that lecture will be presented.

Toward social implementation of Digital Earth
Conducted by: Prof. Hiromichi Fukui, **Date:** 26 August 2024

Participants gained an in-depth understanding of Digital Earth and significant research in this field. They applied these insights to real-world scenarios, including disaster response, metropolitan and urban planning, Sustainable Development Goals (SDGs), and identifying key variables. The focus also shifted to envisioning "Digital Earth 2030."

Riko Tsuji *(3rd year - undergraduate student, English Language and Culture)*

I've learned how Digital Earth can be used in society to identify and solve core problems, like disaster management. Technology, including Digital Earth and big data, has immense potential to uncover insights beyond human vision and save lives. I found it fascinating that Digital Earth can even be applied to avalanche studies.

Hiiro Torii *(2nd year - undergraduate student, Aerospace)*

I learned how to acquire topographic information and geographic 3D data from GIS and use it to assess damage in the event of a disaster. This was a great opportunity for me to learn how to use small satellites and drones for my graduation thesis.

Pakin Santaweesuk *(4th year - undergraduate student, Geography)*

Digital Earth, surface visualization models, and 3D models. I can apply these to my job and research, especially in managing databases to visualize surface models.

Chihaya Nakagawa *(2nd year - undergraduate student, Mathematics)*

We learned how to create 3D models of maps using drones. I believe this can be used to predict landslides.

Utilization of Geoinformatics in the field of archaeology
Conducted by: Dr. Nobuya Watanabe, **Date:** 26 August 2024

Participants were introduced to geoinformatics in archaeology and its significance. They explored various geoinformatics techniques, such as UAV, photogrammetry, data field collection, and GIS, and examined real historical site case studies. They gained a comprehensive understanding of the past, present, and future applications of geoinformatics in archaeology.

Shinji Wakita (*3rd year - undergraduate student, Computer Science*)

I learned that geoinformatics is used not only for modern research but also in ancient research. I think it will enable more detailed research into ancient times.

Mio Takagi (*4th year - undergraduate student, Occupational therapist*)

GIS helps uncover artifacts. I realized it's valuable not just for contemporary purposes, but also for understanding the lives of people in the past.

Artitaya Junraksasakul (*4th year - undergraduate student, Geography*)

I learned that archaeology today leverages geographic information technology to obtain accurate and verifiable facts, including modeling and spatial analysis via satellite. I may apply this to my research on urban renewal theory, which involves analyzing building forms in the Bangkok area.

Ivy Perez (*4th year - undergraduate student, Geodetic Engineering*)

Archeology is much more than I know. He's right when he said that all I know about Archeology is treasure and such. I can use it by using also geoinformatics in my field of study. By using camera of the phone to capture 3Ds.

BigData and AI technology in urban application
Conducted by: Dr. Sarawut Ninsawat, **Date:** 26 August 2024

Participants explored the basics of Big Data and AI technology for urban applications. They also delved into remote sensing technology, learning how various parameters can be measured to differentiate between objects like leaves, concrete, and vegetation. Additionally, they discovered the hierarchical relationship among artificial intelligence, machine learning, and deep learning, understanding that deep learning is a subset of machine learning, which in turn is a subset of artificial intelligence.

Mihaya Nakagawa *(2ⁿᵈ year – undergraduate student, Mathematics)*

Machine learning to help bring AI capabilities to urbanization. Machine learning is necessary because there are too many calculations that can't be done by humans. For example, it helps reduce gas emissions from taxis and combat climate change.

Shinji Wakita *(3ʳᵈ year - undergraduate student, Computer Science)*

I learned that machine learning is being used in urbanization. I also think that this technology is being used to reduce CO2 emissions from taxis, which will lead to sustainable urbanization.

Ngo Tran Sang *(4ᵗʰ year - undergraduate student, Resource and Environmental Management)*

Big data, AI (artificial intelligence, machine learning, deep learning), comprehensive tool for CO2 emission monitoring. After course, I would like to be learn machine learning, and application for estimation water pollution in Vietnam river.

Sunattha Lalaeng *(4ᵗʰ year - undergraduate student, Geography and Geoinformatics)*

How to use Remote sensing detect phenomena on earth, clearly understand about important of spectral signature to classify things like land use, and how to manage very big data by using AI and teach how different between Machine Learning and Deep learning and its type, Example of project that use AI. I will use this knowledge in my next research about classification land use by using machine learning.

New Trends in Innovation Management: Users, Open, and Crowdsourcing Innovation

Conducted by: Prof. Yuosre Badir, **Date:** 27 August 2024

Participants delved into various contemporary business strategies. They learned that business professionals must consider numerous factors, such as competitors, social changes, and customer traits. Additionally, they discovered multiple methods of generating income that can improve living standards globally by creating job opportunities.

Seira Kusaka *(Master student, Biochemistry)*

I learned that a company cannot thrive without developing innovations or creating new businesses. By coming up with new ideas and presenting them, I realized how challenging this process can be. I aspire to consistently generate fresh ideas when I enter the workforce in the future.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned about innovation, how innovation is created as well as sources of innovation. I primarily learned about the effectiveness of crowdsourcing and its high profit margin when used effectively. I plan to use what I learned and apply it to find and create innovation for my future business ventures so that I can contribute toward the society through higher employment rates.

Prasone Khaosaath *(1st year - undergraduate student, Environmental science)*

I have learned about the importance of innovation for businesses' sustainability as well as how crowdsourcing benefits businesses. I hope to implement the skills that I have gained from this course in my future projects and business's ideas.

Pakin Santaweesuk *(4th year - undergraduate student, Geography)*

How to make new innovations and know some kind of sources of innovation. I can apply it when I get some idea and want to do business, that really work for me

Understanding the mechanisms of large language model and its limitations

Conducted by: Dr. Chaklam Silpasuwanchai, **Date:** 27 August 2024

Participants delved into the Large Language Model (LLM) and its significance across various applications. They explored LLM methodologies and examples, gaining an understanding of its benefits and transformer architecture. The lecture also featured an example of the OpenAI API developed by the instructor's team, which participants used to solve their own problems.

Kodai Koguchi *(3rd year - undergraduate student, Aerospace)*

We use numbers when we teach Al. I thought about the difference between the human brain and Al. There are a trillion and infinite human brains. There are 175 billion Als. About Al mistakes. Masking is not guaranteed. I thought about various biases. What I'm applying to the future is recognizing that the potential of the human brain is superior to Al.

Artitaya Junraksasakul *(4th year – undergraduate student, Geography)*

I have understood the history of language models, what they have gone through to develop to the present. I have understood the basics of models, which we can teach or feed it data and give it commands to analyze.
In the future, I may use the ChatGPT command input technique that the teacher taught to make my research successful.

Hiiro Torii *(2nd year - undergraduate student, Aerospace)*

I learned about large-scale language models, their history, types and specs, and how to learn them. I think it is wonderful that the source code can be completed in 16 lines. I think this is knowledge that will be necessary in Japan, which will become an AI society in the future.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned more about AI and large language models. I learned how they can deal with everything that are numbers. I also learned that most things could become numbers such as images, audio and brainwaves. I learned how AI is trained and how they are fine-tuned instructed to become more specialized. I plan to use this knowledge to use AI and large language models to help me solve problems that are too big for humans to understand.

Cybersecurity Awareness
Conducted by: Dr. Chantri Polprasert, **Date:** 27 August 2024

Participants learned about cybersecurity and its impact on victims. They gained insights into various types of attacks, such as DDoS and Masquerade attacks. Additionally, they explored the importance of encryption. They also learned about the concept of a chain of trust in the internet, where we trust browsers, browsers trust certificate authorities, and these authorities trust websites.

Riko Tsuji (*3rd year - undergraduate student, English Language and Culture*)

I have learned some examples of cyber-attacks that have actually happened. I also have learned methods to prevent attacks such as encryption and making the password longer. I found it difficult because it is so time-taking and hard work to prevent all the attacks. I have learned the ways to distinguish what websites are good or not, so I think I can apply this knowledge to my daily lives.

Sunattha Lalaeng (*4th year - undergraduate student, Geography and Geoinformatics*)

How to prevent cybercrime with many techniques for example check real or fake URL from certificate secure from source that browser believe, check Wi-Fi before connecting to prevent your privacy information and financial information. We can apply this lesson in daily life it very important in digital world because we access internet every day**.**

Prasone Khaosaath (*1st year - undergraduate student, Environmental science*)

This course has certainly raised awareness of the importance of cybersecurity, how we can prevent malicious cyberattacks in our daily life as well as the insight on this career path. I view this as a problem that should receive more attention, and I hope to use the information regarding cybersecurity during this course to assist me in both personal and professional life to prevent the cyberattacks and hopefully to raise awareness of cybersecurity in my community.

Pakin Santaweesuk (*4th year – undergraduate student, Geography*)

How that attacker work on IOT or everything not just only this one and know how to prevent it. So, this really useful for my daily life, that can make me realize on every single move even I connect the Wi-Fi.

Hand on: Machine Learning 101 Practice

Conducted by: Dr. Sanit Arunplod, **Date:** 28 August 2024

Participants learned the basics of machine learning and gained an understanding of how AI, like ChatGPT, learns and provides information to humans. They explored various methods of training AI, and through practice, they grasped all of them. They realized that while the process is straightforward, it requires a significant amount of time to develop AI technology.

Seira Kusaka *(Master student, Biochemistry)*

We learned that machine learning can simplify an image and make it easier to analyze by dividing the image into multiple regions. We also learned that there are six types of image segmentation. By actually experiencing what AI is doing, I was able to deepen my understanding of AI's work. Because it was like a game, it was easy to understand and enjoy. I was able to understand and distinguish between supervised and unsupervised learning.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned a lot about how AI is trained, which are supervised, unsupervised and reinforcement learning. I learned that supervised is by labeling while unsupervised is by grouping similar things. I will apply this knowledge to give me head start in studying AI and maybe training one in the future.

Mihaya Nakagawa *(2nd year - undergraduate student, Mathematics)*

I learned that there are various types of image recognition, and through practical classes I learned that images can be identified using colors, outlines, etc.

Hiiro Torii *(2nd year - undergraduate student, Aerospace)*

In this class, we learned about image recognition systems. We also played a game to experience them. I think this will be useful when creating image translation systems and satellite imaging systems in the future.

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Hand on: Geospatial Analysis using Free Open-Source Software (FOSS)
Conducted by: Dr. Chitrini Mozumder, **Date:** 28 August 2024

Participants learned about QuantumGIS (QGIS) and its applications. They explored how to use geoprocessing tools to identify and solve problems. They followed the easiest methods with Free Open-Source Software and created simple map visualizations using QGIS.

Mary Chevel P. Modesto *(3rd year - undergraduate student, Computer Science)*

Honestly this had been my first time ever encountering the software used for GIS mapping, which was why I cannot say for sure if I fully understood everything in the lecture.

Kodai Koguchi *(3rd year - undergraduate student, Aerospace)*

I actually experienced the operation of QGIS using a computer. A layer is formed by stacking many layers, and a lot of visual information can be provided. You can freely combine and use information on your own. I use QGIS at university. It will be applied to lectures at Japanese universities in the future.

Ngo Tran Sang *(4th year - undergraduate student, Resource and Environmental Management)*

I learn what is GIS, applications of GIS, how to use GIS to classify the level of impact of earthquakes, print maps

Shinji Wakita *(3rd year - undergraduate student, Computer Science)*

I was able to learn how to use QGIS and how to utilize GIS. In the future, I would like to use GIS technology to analyze and understand geography.

Geospatial technologies for health
Conducted by: Prof. Nitin Kumar Tripathi, **Date:** 30 August 2024

This lecture introduces how Geographic Information Systems (GIS) can enhance research and decision-making in healthcare through Geo-medicine. It also covers the application of GIS in various healthcare case studies, such as exploring climate factors contributing to malaria prevalence, hand, foot, and mouth disease, and applying machine learning to malaria research.

Pakin Santaweesuk *(4th year - undergraduate student, Geography)*

I learned a lot about how to use spatial distribution of decease that can predict and prevent. If I will be analyzer this is useful.

Prasone Khaosaath *(1st year - undergraduate student, Environmental science)*

I have learned about how geospatial technology can help us identify how zoonotic diseases spread among humans as well to predict the next outbreak. I hope to utilize it for future analysis.

Ivy Perez *(4th-year undergraduate student, Geodetic Engineering)*

Geospatial about health is something I am interested to do. To be able to map it and to make it something that is accessible to ither is awesome. I learned that you could do more using GIS, through satellite images you can also map and predict what can happen in malaria cases. And using this in future can literally help people to know how many cases, if there is another outbreak, and be prepared if something happens just through maps. What can I say prevention is a cure.

Artitaya Junraksasakul *(4th-year undergraduate student, Geography)*

I have studied Geospatial technologies for health, which is related to human health and social well-being because geography teaches us to understand the nature of the complex relationships that occur in the world. In the future, I may apply my knowledge of map types to my own research.

Ethical and Trustworthy AI

Conducted by: Dr. Apivadee Piyatumrong, **Date:** 30 August 2024

Participants delved into AI ethics and the importance of creating ethical AI. They learned about confabulation, which is when AI provides incorrect information, and why it can be dangerous. Additionally, they explored the measures taken to ensure AI is not harmful.

Kota Handa *(3rd year - undergraduate student, Food and Nutritional Sciences)*

I found that both trustworthy and responsible AI with ethics are different but very important There are six key principles of AI and I felt that each of them must be well understood to use AI Improving the ethics of AI is not something that can be done at once, but rather repeated over and over again to increase accuracy I found out that it is not possible to do it at once, but by repeating it many times. I also felt that the users must have correct knowledge about AI and understand how to use it to enhance their sense of responsibility and ethics. I could understand that a method to post correct information without mixing it with fake information is now being developed.

Mihaya Nakagawa *(2nd-year undergraduate student, Mathematics)*

ChatGPT has various advantages, but it is not always correct, so it is necessary to select and utilize the information. I thought it might be useful in the future for conversations to prevent dementia.

Ngo Tran Sang *(4th year - undergraduate student, Resource and Environmental Management)*

Trustworthy AI and Responsibility AI bench marking is performance and trustworthiness, transparently and explainability in AI, AI sector-based law.

Seira Kusaka *(Master student, Biochemistry)*

We learned that there are trustworthy and responsible Als, and that Als need to be fair and non-discriminatory, accountable, transparent and accountable, private, safe and secure, and controlled by humans over technology. I learned that in using Al, it is also necessary for the user to know how to use it.

Innovation in air quality management
Conducted by: Dr. Ekbordin Winijkul, **Date:** 30 August 2024

Participants learned about air pollution and the major pollutants found globally. They grasped the negative health effects of air pollution and the current global air pollution situation. They also understood Thailand's major emission sources and how meteorology influences air pollution. Additionally, the lecture covered the impact of the COVID-19 pandemic on air quality in various cities worldwide. Basic concepts of Air Quality Management were clearly explained for participants from diverse fields.

Riko Tsuji *(3rd year - undergraduate student, English Language and Culture)*

I have learned that there are many factors that bring about air pollution such as ozone and sulfur oxide. I also have learned that the amount of PM2.5 has decreased during COVID as many people didn't use their traffic, while some countries didn't change because of other factors such as eruption and forest fire. Since air pollution causes various bad effects on human's health, it is significant to make the air clean. I understand the bad influence on human beings by pollution, so I want to choose actions or things which are clean to the air.

Prasone Khaosaath *(1st year - undergraduate student, Environmental science)*

I have learned about how PM2.5 affects health in different countries and causes of air pollution as well as interesting technology that can mitigate air pollution. I hope to apply the knowledge I have gained in my field of study to combat air pollution.

Ivy Perez *(4th year - undergraduate student, Geodetic Engineering)*

Talking about air pollution is interesting, to be able to know how monitors and sensors work and how it is important. Living in a city, I somehow are the importance of this. PM2.5 is a serious thing. So, will apply and share this knowledge to my peers and will also be helpful on my thesis.

Shinji Wakita *(3rd year - undergraduate student, Computer Science)*

I was able to learn about the concept of air quality, and how to observe and deal with air pollution. I felt that this would be useful for future sustainable development.

BigData and IoT

Conducted by: Dr. Apichon Witayangkurn, **Date:** 2 September 2024

Participants learned about the definition of Big Data and the stories behind the data revolution over the past few decades. This section also covered the Internet of Things (IoT) and current technological trends. They explored various IoT applications in fields like agriculture, residential settings, and healthcare. Additionally, participants gained knowledge about different hardware used in IoT devices.

Seira Kusaka *(Master student, Biochemistry)*

Various devices such as wakefulness and sleep support devices are becoming popular. They can be used anywhere, by anyone, on any device. We have learned that these can be used to monitor and control traffic signals to reduce congestion and provide alternative routes. They have also led to improved safety.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned more about internet of things and how big data relates to it. I learned how internet of things devices have multiple sensors and collect information through voltage, then compute the voltage to obtain necessary information. I learned how they gather so much data through multiple sensors.

Artitaya Junraksasakul *(4th year - undergraduate student, Geography and Geoinformatics)*

I learned about BigData and IoT. There were examples of IoT used in everyday life and brief details. In the future, I might use the knowledge I gained today to choose things related to the Internet.

Sunattha Lalaeng *(4th year - undergraduate student, Geography and Geoinformatics)*

How to handle data from sensors because of a lot of data. IoT is the network of devices with electronics, software, sensors, and network connectivity that can collect and exchange data anything anytime anyplace. Have to consider about Data Volume (frequency how long), Networking and Communication, Societal Impact, Service and Application, Security, Reliability Trust and privacy. Components are Device, Platform, Intelligence. Can apply with smart city, transportation, environment, and farming or in mobile phone.

Using Big Data to Enhance Public Safety and Emergency Response
Conducted by: Dr. Teerayut Horanont, **Date:** 2 September 2024

Participants learned about a GPS-like system for high-speed vehicles and cabs, as well as a road condition monitoring system used to track the deterioration of road surfaces. They understood how these systems help in maintenance and management. Additionally, they discovered that in Thailand, cabs, buses, and military vehicles are identified by the color and shape of their license plates. These innovations make life more convenient and help prevent accidents.

Kota Handa *(3rd year - undergraduate student, Food and Nutritional Sciences)*

This learning method can be repeated to increase accuracy; we learned that increasing the accuracy of AI can help in areas such as agriculture and roads, especially when it is difficult for people to make decisions. We learned that remote sensing technology plays a very important role in this kind of technology.


Seira Kusaka *(Master student, Biochemistry)*

I learned that there is a GPS-like system for high-speed vehicles and cabs. The road condition monitoring system is used to monitor the deterioration of the road surface. I learned that this is how they are maintained and managed. I learned that Thailand is divided into cabs, buses, and the military according to the color and shape of the number. I thought that these things made our lives more convenient and prevented accidents from happening.

Mary Chevel P. Modesto *(3rd year - undergraduate student, Computer Science)*

I had mostly learned about the many applications that BigData can be used for to help solve the common problems that people generally tend to face in their day to day living. I would definitely like to apply his research methodologies and implementations to my own projects in the future.
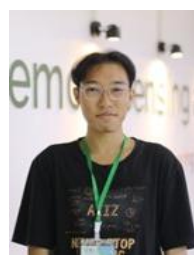
Pakin Santaweesuk *(4th year - undergraduate student, Geography)*

SIIT is so interesting, maybe some time, I am interested in SIIT and go study my master's degree.

Remote Sensing and Artificial Intelligence for Crop Stress and Health Monitoring

Conducted by: Mr. Aakash Thapa, **Date:** 2 September 2024

Participants learned about applying remote sensing data and AI to crop monitoring. They explored the capabilities of the Remote sensing highlighting its powerful applications, including crop insurance. Remote sensing data is crucial for monitoring crops and managing crop-related disasters. The satellite data, with its timely, dynamic, and large-scale coverage, is especially useful for monitoring crop activities, particularly during droughts.

Prasone Khaosaath (*1st year - undergraduate student, Environmental science*)

I have learned about the disadvantages of traditional loss assessment of crops and how we can use remote sensing and artificial intelligence to monitor crops, and it can be even more effective than the traditional one. The knowledge I have gained can be used for future projects related to agriculture, assisting local businesses/farmers.

Mihaya Nakagawa (*2nd year - undergraduate student, Mathematics*)

I learned that AI is being used to understand the condition of crops. It also helps prevent diseases in crops, allowing them to be grown more accurately and efficiently.

Chihaya Nakagawa (*2nd year - undergraduate student, Mathematics*)

I learned about image object detection. I think that using this will help me check the health of plants more accurately and quickly because it doesn't require human eyes to check.

Mio Takagi (*4th year - undergraduate student, Occupational therapist*)

I learned how Thai crops are damaged by environmental factors such as floods, droughts, and diseases. Conventionally, damage assessment was done manually, but by using an object detection program, it became possible to monitor and understand the growth of crops. I felt that object detection will be useful in the future because it can be applied in various ways, not just for crop management.

Climate Change Impacts on crop production in ASIA-Pacific
Conducted by: Dr. Mohana Sundaram, **Date:** 3 September 2024

Participants delved into the history of crop models and the significance of crop growth simulation models. They learned to identify various types of crop models, including empirical, mathematical, dynamic, and phonological models. The lecture covered primary processes in crop growth modeling, such as light interception, CO_2 fixation, and water movement. Additionally, they explored the diverse methods of data acquisition for crop models.

Ivy Perez *(4th-year undergraduate student, Geodetic Engineering)*

I learned some different ways of assessing the current and future climate change vulnerability on crop yields. I was also introduced to some software used for doing it. It's quite amazing that you can even assess the health by just some of the parameters. In the near future, I would be able to apply this thing for analyzing crops and even predicting on what can happen to the crops if some parameters get high or low.

Seira Kusaka *(Master student, Biochemistry)*

How did you learn the process of knowing future climate change, vulnerability, etc. In the future, temperatures will increase, and precipitation will decrease. It was also found to increase crop yields and reduce vulnerability. We learned that the vulnerability of crops is decreasing, but we still need to develop measures to further reduce it.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned more about how research is conducted, how data is bias corrected, then how data is obtained from multiple sources in order to answer research questions that are proposed. I also learned how data is calibrated to gain more accurate results.

Artitaya Junraksasakul *(4th year - undergraduate student, Geography)*

Learned about research in detail. The expert explained the objectives, data required and methods, some of which were new to me. In the future, I may apply the research framework process to my research.

Land Information for Climate and Environmental Research
Conducted by: Dr. Natthachet Tangdamrongsub, **Date:** 3 September 2024

Participants learned about AI, big data, and water cycles. They explored the relationship between water evaporation and the sun, and delved into the U.S. ground surveillance network. They discussed the relationship between remote sensing and modeling, utilizing observation networks to measure rain, remote sensing technology, and modeling to predict data. They also compared the benefits and limitations of modeling and remote sensing.

Shinji Wakita *(3rd year - undergraduate student, Computer Science)*

I learned how to use rainfall and soil information to solve problems specific to the area, and who knows what the future holds.

Mio Takagi *(4th year - undergraduate student, Occupational therapist)*

I was able to understand the advantages and disadvantages of remote sensing and modeling.

Kota Handa *(3rd year - undergraduate student, Food and Nutritional Sciences)*

I now clearly understand the difference between remote sensing technology and sensing technology. Without a clear understanding of the strengths and limitations of each, I knew I would have a difficult time conducting my research. I learned that the combination of these two technologies can also be utilized to increase accuracy. I was amazed at the way this technology can be used to research things related to water.

Le Hoang Thai Son *(4th-year undergraduate student, Environmental Management)*

Land user and land cover data, know more about remote sensing, GIS

Basic of UAV and UAV flight operations
Conducted by: Dr. Sanit Arunplod, **Date:** 3 September 2024

Participants explored the structure, design, and fundamentals of UAVs. They learned how to configure flight directions using remote sensing and set initial details before flying. Through demonstrations, they gained hands-on experience in using UAVs to capture images. Additionally, each participant had the opportunity to individually control and fly a UAV for practical learning.

Sunattha Lalaeng *(4th year - undergraduate student, Geography and Geoinformatics)*

What is UAV (unmanned aerial vehicle), UAV use for observation and tactical planning. UAV is higher resolution than Satellite. We use Drone mapping for surveying and GIS, Mining (calculate volume in hole), Construction and infrastructure, Agriculture, and environment/ emergency Response.

Kodai Koguchi *(3rd year - undergraduate student, Aerospace)*

Description of the UAV. Types, features and uses of UAVs.
Technology advances make them smaller, lighter, and cheaper. Sometimes satellites cannot be photographed by clouds. Drones can take clearer images than satellites.

Hiiro Torii *(2nd year - undergraduate student, Aerospace)*

The students learned about GIS using drones, including what UAVs are, what types are available, and how to create 3D models using drones.

Mihaya Nakagawa *(2nd-year undergraduate student, Mathematics)*

I learned that there are various types of drones, and they differ depending on the type of drone, such as emphasis on battery or durability. I think it is important to consider the situation, price, etc. and decide which one to use.

Hand on : UAV, GNSS experiment in the field
Conducted by: Dr. Sanit Arunplod, **Date:** 4 September 2024

Participants gained insights into the structure, design, and fundamentals of UAVs. They learned how to configure flight directions using remote sensing and set initial details before takeoff. Through demonstrations, they acquired hands-on experience in capturing images with UAVs. Additionally, they individually controlled and flew UAVs for practical learning.

Shinji Wakita *(3ʳᵈ year - undergraduate student, Computer Science)*

I was able to gain a deeper understanding of drone operation, and I feel this technology will be of great use in photography for machine learning.

Josh Edward Lui *(2ⁿᵈ year - undergraduate student Information Technology)*

I learned about how to prepare UAV drones for operation, basics on how to control them and how devices such as tablets can be used through downloading software in order to make drone control more convenient.

Hiiro Torii *(2ⁿᵈ year - undergraduate student, Aerospace)*

We piloted a drone using a simulation and an actual drone. I think this will be useful for future experiments using drones and for my thesis.

Mihaya Nakagawa *(2ⁿᵈ–year undergraduate student, Mathematics)*

I was able to see and experience how to fly a drone. I found it particularly interesting that the wings are marked with different colors to determine where to attach them.

Nanotechnology: the enabling technology for 21st century
Conducted by: Dr. Tanujjal Bora, **Date:** 5 September 2024

Participants explored the history and current applications of nanotechnology. The lecture on preventing insulator contamination was particularly intriguing, revealing its potential applications beyond just insulators, to various surfaces that require cleanliness.

Shinji Wakita *(3rd year - undergraduate student, Computer Science)*

I learned about the history of nanotechnology up to now and what it is used for. The content on preventing contamination of insulators was very interesting, and I felt that it can be applied to various things other than insulators that you do not want to get dirty.

Ivy Perez *(4th-year undergraduate student, Geodetic Engineering)*

One word. Interesting. I only know nano technology in movies and learning that stuff that I saw like teleportation is possible is quite cool. Nano stuff exists and I didn't know that there is studying about that and we are able to do stuffs without us knowing it. From the stone used in centuries ago for their decorative windows to the computer transmitters that we are using thru laptops. Its everywhere and I am interested on learning more about nano technology.

Kodai Koguchi *(3rd year - undergraduate student, Aerospace)*

I learned about nanotechnology. We compared the size of Nano's world with hair and other things. Carbon nanotubes using technology in the future. Description of the definition of nanomaterials. In 1990, nanotechnology was created through the operation of a single atom. Professor Taniguchi established the foundation of nanotechnology in 1974. A description of universal gravitation and magnetic force.

Le Hoang Thai Son *(4th-year undergraduate student, Environmental Management)*

Applications, unique properties, some examples about nano nature

Geospatial technologies for urban sustainability
Conducted by: Dr. Chitrini Mozumder, **Date:** 5 September 2024

Participants were introduced to the concept of Geospatial technologies. They gained a comprehensive understanding of these technologies, which analyze and visualize geographic data to provide insights into various urban environment aspects. The lecture focused primarily on applying Geospatial technologies to achieve Sustainable Development Goals (SDGs) and establish key pillars of Urban Sustainability.

Kota Handa *(3rd year - undergraduate student, Food and Nutritional Sciences)*

In terms of urban sustainability, I now understand that it is important to achieve a balance between the environment and the economy, and to further improve society. I also understood that GIS can be used to solve problems that become difficult with development, such as water problems, agricultural problems, and forests. I could understand that it is very interesting and useful.

Prasone Khaosaath *(1st year - undergraduate student, Environmental science)*

I have learned about the definition of geospatial technology and how can it be used in sustainable urban planning. Moreover, the lecturer also provided open source tools for the participants to practice. The knowledge gained from this course can be utilized in my field of study as well as in daily life.

Sunattha Lalaeng *(4th year - undergraduate student, Geography and Geoinformatics)*

Geospatial technology helps make cities more sustainable. Using geospatial data to build better, greener cities. Mapping a sustainable future for urban areas. Geo design with deerpor beel. Geospatial Technologies for Urban Sustainability

Mihaya Nakagawa *(2nd-year undergraduate student, Mathematics)*

I often hear the word "sustainability" but I didn't know how the world is moving towards it. In this class, I was able to learn more about urban planning using geospatial technology.

Diaster Mitigation and Prepareness
Conducted by: Dr. Indrajit Pal, **Date:** 5 September 2024

Participants explored various disasters and how sensors are used to measure and predict their occurrence. They also learned about different indexes, including the Exposure to Hazard Index, Adaptive Capacity Index, and Vulnerability Index.

Artitaya Junraksasakul *(4th-year undergraduate student, Geography)*

From studying Disaster Mitigation and Preparedness, I learned how to reduce risks, improve response strategies, and protect communities from future disasters.

Shinji Wakita *(3rd year - undergraduate student, Computer Science)*

I learned that Thailand's climate is prone to flooding, and that the major flood of 2011 caused great damage in terms of human lives, the economy, and technology. I thought that flood prevention measures could be linked to Japan's tsunami prevention measures.

Mio Takagi *(4th year - undergraduate student, Occupational therapist)*

Flooding is common in Thailand, and the 2011 floods had a major impact on urban areas both economically and environmentally. Urbanization in the BMA continues to persist through rapid expansion of built-up areas, resulting in a decrease in area, vegetation and cultivated land.

Ivy Perez *(4th-year undergraduate student, Geodetic Engineering)*

Disaster and mitigation preparedness is what we need right now. Planning for it means it will reduce the number of those who are vulnerable. I remember once when I was studying my instructor mentioned that planning is for the people, by the people, and with the people. Listening to the lecture is quite interesting because using geospatial tools is handy. This can be a great way to prepare and plan when disaster strikes as we can predict those who are susceptible to the disaster.

8. Comments on Field Trip

GISTDA Sriracha and Space Inspirium
Date: 29 August 2024

GISTDA is a public and core organization of Thailand. GISTDA was established on November 3, 2000. GISTDA is responsible for space technology and geo-information activities. Today, GISTDA is developing a worldwide network of distributors to allow the users to use and access all GISTDA products. All participants visited to GISTDA Sriracha and Space Inspirium.

Hiiro Torii *(2nd year - undergraduate student, Aerospace)*

The students learned about space and astronauts through explanations of equipment for endurance testing of satellites and observed the process of creating satellites utilizing such equipment.

Ivy Perez *(4th-year undergraduate student, Geodetic Engineering)*

In GISTDA Sriracha anything about how satellites are made are new for me. To be able to see and learned how and where they are building it is quite amazing. Theos satellite in Thailand is something. Kudos to those who guide, they explained it clearly. From the materials used to how they fixed the parts in steps to finally how they make the satellite go to space.

Pakin Santaweesuk *(4th year - undergraduate student, Geography)*

I really appreciated to bring me here, so that makes me know a lot about Theos-2 and 2A. All those I really interested in it by far. And museum is so fun.

Mio Takagi *(4th year - undergraduate student, Occupational therapist)*

I was able to understand how to inspect a satellite. Humidity and temperature were carefully controlled.

Kubota farm

Date: 29 August 2024

KUBOTA FARM, the first educational and experiential modern farm in Southeast Asia. At KUBOTA FARM, farmers and visitors can explore and experience modern agricultural innovations on our farm's spacious area of 220 rai. With our Agriculture Solutions and Machinery Solutions, this place aims to help farmers optimize farming efficiency and precision, achieve plentiful production more cost-effectively, and learn to manage income sustainably for the advancement of Southeast Asian nations into the era of modern agriculture.

Shinji Wakita *(3rd year - undergraduate student, Computer Science)*

I learned that Kubota Farm is using GIS and IoT technology to achieve more efficient, energy-saving, and low-cost agriculture.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned about more ways to farm efficiently, such as not burning the wastes, but rather using them to enhance the future crops. I also learned about the technology they use to reduce human labor needed. I learned about how the water pipe system works and how it is automated.

Chihaya Nakagawa *(2nd year - undergraduate student, Mathematics)*

I learned that Kubota Farm is growing crops with ingenuity, especially by using machines to grow crops, which allows them to significantly reduce energy, water, and costs.

Seira Kusaka *(Master student, Biochemistry)*

I saw and felt that Kubota has a wide variety of agricultural machinery. I learned that robots are used only in places where it would be dangerous to have a person on board, and I learned that safety is also considered.

Ayutthaya cultural

Date: 31 August 2024

The Ayutthaya historical and cultural covers the ruins of the old city of Ayutthaya, Thailand. With this program, the participants had a chance to visit the highlights such as Chao Sam Phraya Museum, Wat Mongkol Bophit and Wat Chai Watthanaram. Also, they enjoyed with elephant at Ayutthaya and learned Thai culture and architecture from the city in Ayutthaya. Moreover, they had opportunity to change the Thai traditional dress.

Hiiro Torii *(2nd year - undergraduate student, Aerospace)*

During my trip to Ayutthaya, I learned about the ancient culture of Thailand and its attitude toward God. In particular, there was a strong promotion of Buddha, and there were monuments in the shape of Buddha everywhere. This will serve as an indicator for future analysis of Thailand from Japan and will help us to understand Thailand more accurately.

Sunattha Lalaeng *(4th year - undergraduate student, Geography and Geoinformatics)*

Visiting Ayutthaya taught me about Thai history and culture. I saw old temples and interesting objects that are still in good condition. This experience helped me understand the importance of preserving our cultural heritage and made me appreciate things around me more.

Josh Edward Lui *(2nd year - undergraduate student Information Technology)*

I learned more about Thai history; how different historical sites were created. I learned about the Buddha traditions and statues, i learned about where the kings in Thailand used to live.

Kodai Koguchi *(3rd year - undergraduate student, Aerospace)*

I looked around the ornaments. I took a look at the beautiful ornaments. I was able to learn deeply about the historical background of the past. It should not be forgotten that there has been a history of destruction and looting over and over again wars with neighboring countries. I will apply the objective understanding of historical facts to various social problems in the future.

Electricity Generating Authority of Thailand (EGAT)

Date: 4 September 2024

The Electricity Generating Authority of Thailand (EGAT) is a state enterprise, managed by the Ministry of Energy, responsible for electric power generation and transmission as well as bulk electric energy sales in Thailand. EGAT, established on 1 May 1969, is the largest power producer in Thailand, owning and operating power plants at 45 sites across the country with a total installed capacity of 15,548 MW.

Chihaya Nakagawa *(2nd year - undergraduate student, Mathematics)*

I learned a lot about electricity of Thailand. Very useful for people because this place make people want to use electricity economically

Pakin Santaweesuk *(4th year - undergraduate student, Geography)*

I learned a lot about electricity of Thailand. Very useful for people because this place make people want to use electricity economically.

Mihaya Nakagawa *(2nd-year undergraduate student, Mathematics)*

We were able to learn about the circulation of electricity and how energy is generated through hands-on experience and videos.
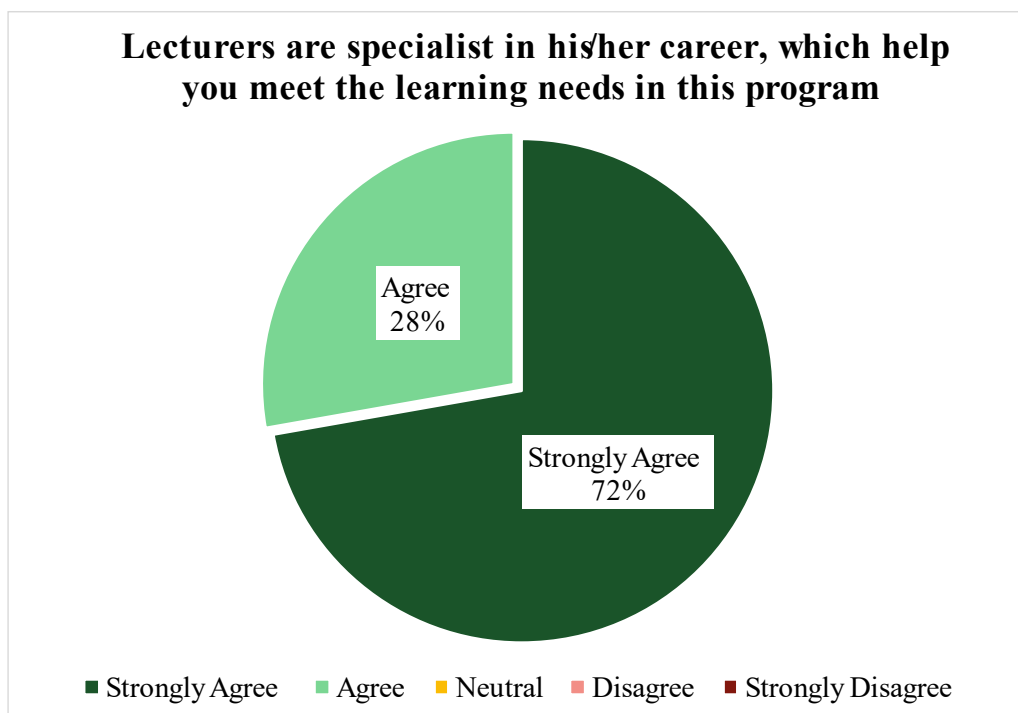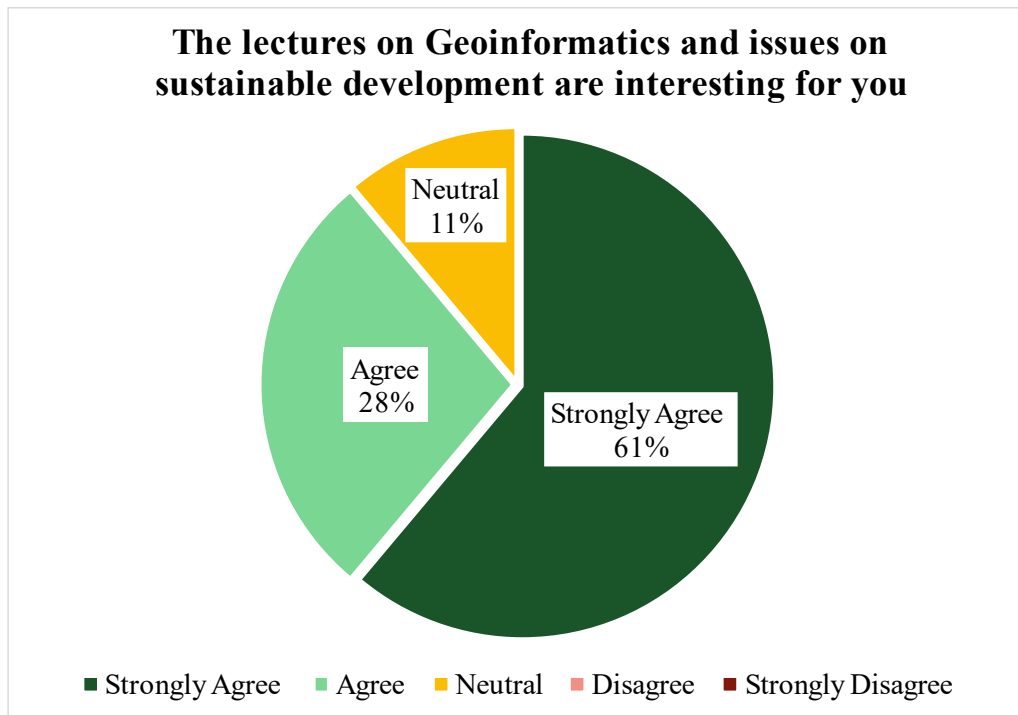

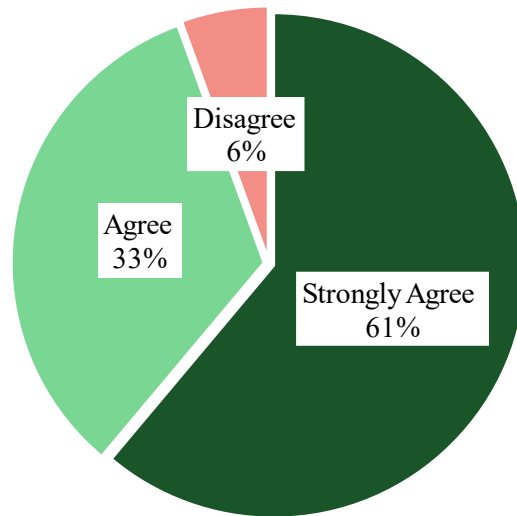**Prasone Khaosaath** *(1st year - undergraduate student, Environmental science)*

This field trip highlights the importance of forgoing the use of fossil fuels, it also provided a fun way to learn about different types of green energy. This course deepened my understanding of different types of renewable energy which is crucial as we transition to renewable energy.

9. Program Evaluation

In this program, the evaluation forms were prepared for receiving feedback from participants in order to evaluate the program and identify weak points for improving further. The results from the first part are displayed as the pie charts below.

The lectures on Geoinformatics and issues on sustainable development are interesting for you

- Neutral 11%
- Agree 28%
- Strongly Agree 61%

Legend: ■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Lecturers are specialist in his/her career, which help you meet the learning needs in this program

- Agree 28%
- Strongly Agree 72%

Legend: ■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Lecture materials, facilities, equipment and supplies were appropriate for the program

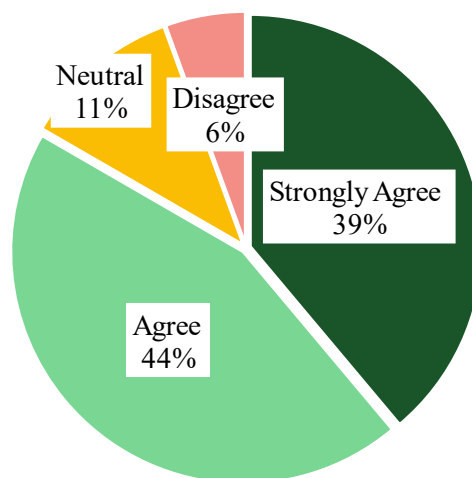Disagree
6%

Agree
33%

Strongly Agree
61%

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Hand on in OpenSource (QGIS), UAV, Machine Learning are improved your technical Geoinformatics skill
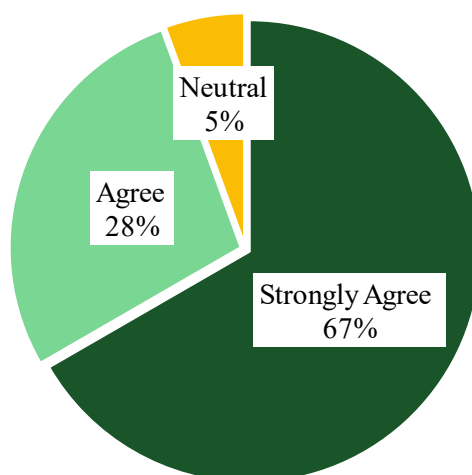

Agree
33%
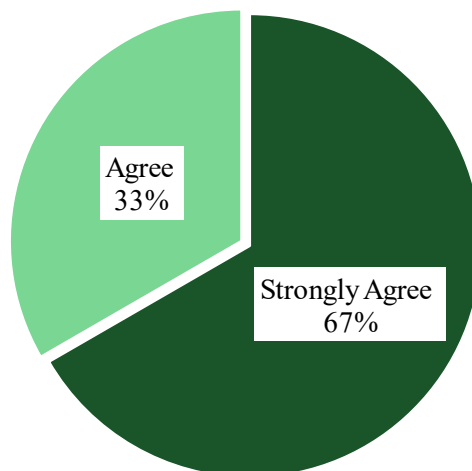
Strongly Agree
67%

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

The amount of lecture classes, study hours or time dedicated to academic learning were sufficient for you

Neutral 11%
Disagree 6%
Strongly Agree 39%
Agree 44%

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Visiting Geoinformatics organizations (government & private sectors) are good opportunity to learn and build capacity for you
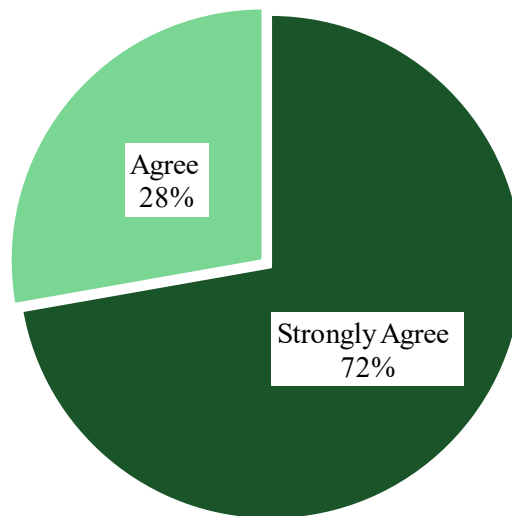

Neutral 5%
Agree 28%
Strongly Agree 67%

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Accommodation at AIT Dormitory is comfortable and safe for you
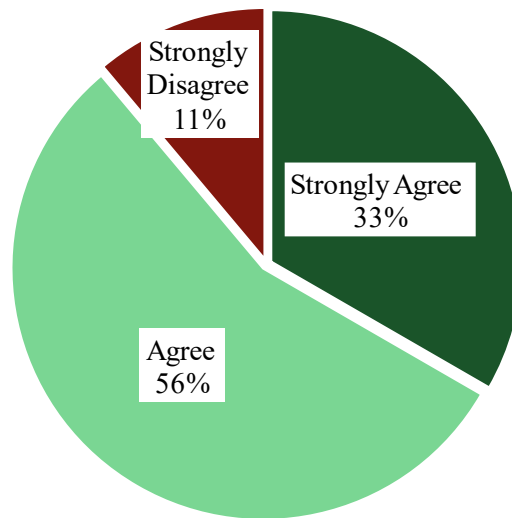
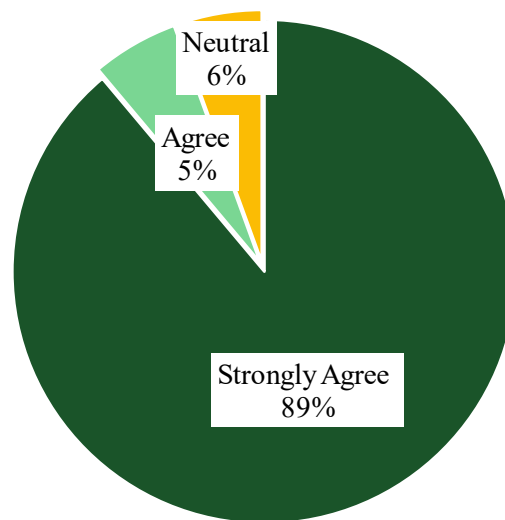Strongly Disagree 11%

Strongly Agree 33%

Agree 56%

■ Strongly Agree　■ Agree　■ Neutral　■ Disagree　■ Strongly Disagree

**You are happy with the choice of curricular and extracurricular activities during this program**

Agree 28%

Strongly Agree 72%

■ Strongly Agree　■ Agree　■ Neutral　■ Disagree　■ Strongly Disagree

You learned the local culture through local life style like places, food, people, etc.
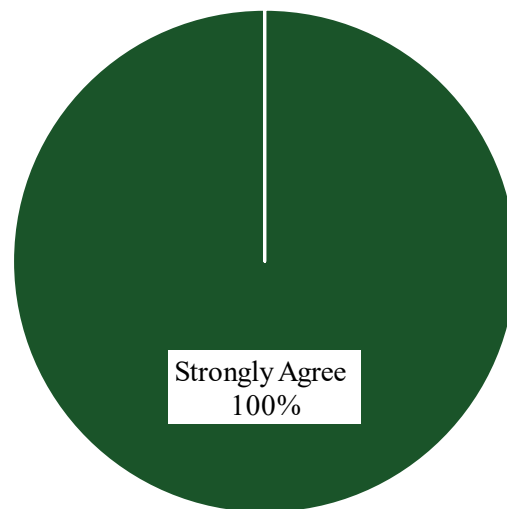
Neutral
6%

Agree
5%

Strongly Agree
89%

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

You are happy with the quality and taste of food, drinks and snacks provided for your study brake

Neutral
6%

Disagree
6%

Agree
5%
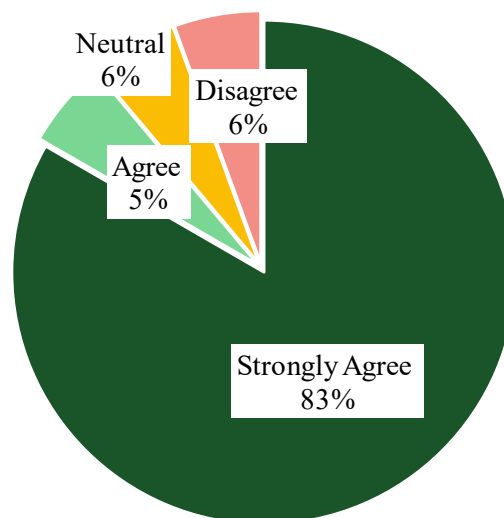
Strongly Agree
83%

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

This program is good chance to obtain experience in multicultural environment
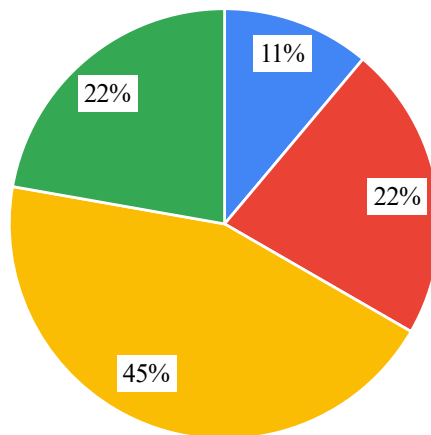
Strongly Agree
100%

■ Strongly Agree   ■ Agree   ■ Neutral   ■ Disagree   ■ Strongly Disagree

Overall, please rate your satisfaction score for the Asian Summer School in Bangkok 2024 program

Satisfied
17%
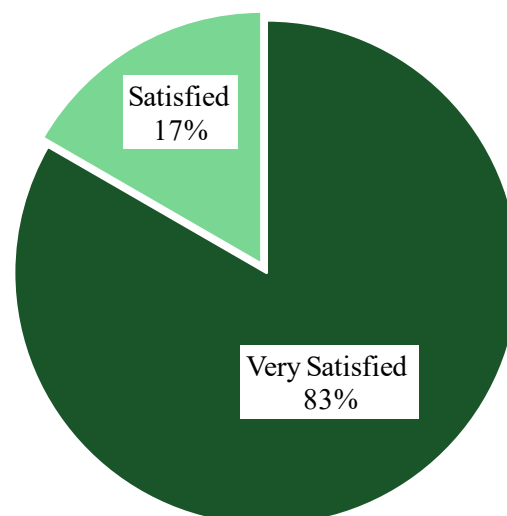
Very Satisfied
83%

■ Very Satisfied   ■ Satisfied   ■ Nuetral   ■ Dissatisfied   ■ Very Dissatisfied

Top rank preferable field visit

11% — GISTDA Sriracha and Space Inspirium
22% — Kubota smart farm
45% — Ayutthaya cultural
22% — Electricity Generating Authority of Thailand (EGAT)

- GISTDA Sriracha and Space Inspirium
- Kubota smart farm
- Ayutthaya cultural
- Electricity Generating Authority of Thailand (EGAT)

The second part shows suggestions from participants as follows.

- Asian Summer School 2024 will be one of my treasured memories. Kudos to those who facilitate it and prepared it, my stay here is comfortable. Amazing opportunity and experience.
- The dormitory door didn't lock, and the air conditioner was broken, so I wish they provided a minimum standard of living. I would also like them to provide a refrigerator and a hair dryer.
- In Japan, not many people can communicate in English, so I didn't feel that worried about my inability to speak English, but this Asia Summer School made me realize how serious it was. I was glad that while only Japanese people could not communicate in English, everyone else tried hard to understand what I was trying to say. I'm still not very good at English, but if I could convey the finer details that a translator can't convey, I think I would be able to talk more with everyone, so I want to try harder. The classes were very difficult, but I think the change in my attitude was a huge change."
- Over the past two weeks, the students have learnt about various GIS-related topics in class and have also had hands-on training to deepen their understanding of the content. The two weeks flew by so fast that I felt the time was very short. The content of the lessons was very interesting, but the speaking speed was a bit fast at times, so I would like the speaking speed to be slowed down. I would like to thank all the people who helped me to have this valuable experience. Thank you very much.
- Thank you for the past two weeks. I was very nervous because I couldn't speak English at all, but the people around me and my friends helped me, so I had a lot of fun and learned a lot. I am glad that I participated in this program. Thank you very much.
- It was a very enjoyable two weeks, even though I was sleep deprived throughout the second half.
- Thank you very much
- Thank you for wonderful two weeks
- Thank you for organizing this camp. I quite enjoyed this program.
- I had a very enjoyable two weeks. Whenever I had a problem or something I didn't understand, they solved it right away. I was a little worried at first, but I had no worries while living in Thailand and enjoyed every day. I was able to live an enjoyable life thanks to all the help I received. Thank you very much!
- I need more time in this camp because every lecture is so useful and important in future, and this camp have make great friends even we come from with different countries.
- All in all, Asian summer school 2024 has been a precious opportunity to introduce oneself to using geoinformatics technology for sustainable development and to immerse oneself in a multicultural environment which is highly beneficial for the participants to be able to discuss about their study with other participants, learn about issues that are emerging in each other's countries as well as learning about each other's culture.
- Thank you to all the staff who organized this project. It was a great two weeks.
- Coming to this camp is a great opportunity and a great memory. I got to learn interesting things, understand difficult and new things, use modern tools, practice communicating in English, and most importantly, meet good friends, try things I've never done in my own university. The facilities are so good that I don't want the camp to end. But one thing I

would like to recommend is to manage your time for work. Sometimes I come back from activities a little late, so I stay up late to do my homework and do laundry.

- I love Thailand, I love the summer course at AIT, I will try to improve my English skills and continue to develop.

- Thank you for the 2 weeks, I think not too long but not too short. But I felt many lectures were so good. So, I can make many friends from other countries. Finally, I just want to say thanks everyone.

- It was a great experience for two weeks. I would definitely recommend it to other children. Thank you.

- I'll miss all of you, thank you for taking care of me for the past 2 weeks. Thank you for keeping me safe and helping me not lose my stuff. This is the first time I'm out of my country alone without family and I enjoyed and learned so much!

- "First and foremost, I would like to thank AIT, Chubu University, and the donors of this amazing 2-week summer program. I absolutely loved my time here, everyone had been extremely accommodating of each and everyone's needs; P.Momay, P.Nammon and Dr. Sarawut were all so kind and friendly, it truly didn't feel like as if there were any differences in ranking between us and I appreciated all of the hospitality they had shown us while we were there. Without them, I can't say the program would have felt exactly the same, so I am extremely grateful for all they had done for us. Moving forward, I would have to say that try as I might, there are unfortunately no words in the English language that can completely describe my feelings towards this program. The time I had spent in AIT is something that I hope to never forget, even in my old age. Not only had I learned so much about GIS, remote sensing, and AI-related technology that I know I will end up using in my thesis next semester as a Computer Science student; But I had also learned so much about the world, how big it truly is, how much people are vulnerable to the changes of nature and the environment, and how we as responsible citizens of Earth should do our best to protect it. Not only did I learn about the importance of sustainability here, but I would also like to say that I too had learned the importance of friendship. Though I had known beforehand that in this program I would be meeting people with differing cultures, background, and language as me - I still did not think that I would be so impacted by their experiences from their side of the world. I learned to communicate with people in creative ways, and how language does not define a friendship, nor any relationship. I wished that the program could have gone on for way longer, but as we all know - all good things must come to an end eventually, and in my 20 years of living this had definitely been the most memorable experience of my life so far. I can't thank you enough to the staff and people involved with the creation and management of this program, I hope to come back to AIT soon and pay my respects to everyone when I can. To my newfound friends, I hope I see them very soon.

10. Conclusion and Recommendation

The Asian Summer School in Bangkok 2024 Program, jointly organized by AIT and Chubu University, aimed to enhance participants' knowledge and experience, particularly in "Geoinformatics for Sustainable Development." The program included hands-on activities to improve technical skills, along with cultural exchanges through various field visits and events like Pizza Parties and trips to Chonburi, Ayutthaya, and Bangkok, fostering good relationships.

Program evaluation results showed that 83% of participants were very satisfied overall, with average satisfaction scores between 4 and 5. The multicultural environment received the highest score. Feedback from participants highlighted the knowledge, friendships, and new experiences gained. Some students recognized the importance of English skills and felt motivated to improve upon returning home. Despite some difficulties in understanding lectures from different fields, they appreciated the foundational concepts. Suggestions included extending the program's duration, incorporating more hands-on practice to enhance engagement and practicality. Participants valued visits to Geoinformatics organizations, agreeing they provided a good opportunity to learn in a real work environment and see real-time processing. Accommodation and food received positive feedback for being safe, convenient, and set in a good environment. This year, the AIT dormitories were used in the first time, there are some problem about the room e.g. Air Conditioner and Door lock. We always used to SSH as the main accommodation however next year the SSH will be renovated and they are fully booked during next year. Then, we might need to use AIT dormitories again but we will check and confirm the room in advance to ensure that all facilities are work properly.

In summary, the program met its main goal of providing knowledge and experience in GIS for sustainable development. Evaluations showed high satisfaction and interesting responses from participants, inspired by each lecture. The program successfully motivated participants to further explore RS-GIS knowledge and pursue higher education at AIT or other universities. It also fostered international relationships, expanding the RS-GIS network and building strong connections for future support.
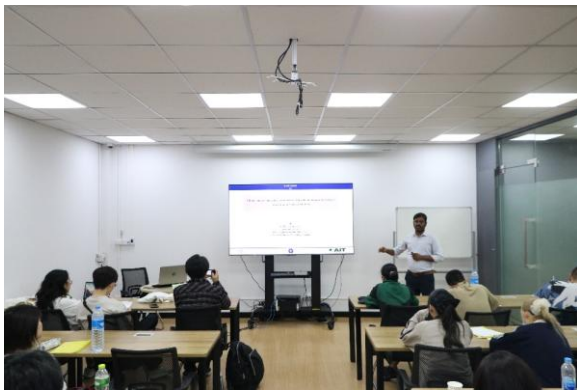
Opening Ceremony
26 August 2024

Lectures
26 August – 5 September 2024

Relax Time：Pizza Party & Presentation
26 August 2024

Hand on: Machine Learning 101 Practice
28 August 2024

Hand on: Geospatial Analysis using Free Open Source Software (FOSS)

28 August 2024

Kubota Smart Farm
29 August 2024

Ayutthaya cultural trip
31 August 2024

Lecture at SIIT
2 September 2024

Hand on : UAV, GNSS experiment in the field
4 September 2024

Indeathon Presentation

6 September 2024

Closing Ceremony
6 September 2024

Appendix 2： Questionnaire

Survey
Summer School in Bangkok 2024
Geoinformatics for Sustainable Development
26 August – 6 September 2024

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The lectures on Geoinformatics and issues on sustainable development are interesting for you	(5)	(4)	(3)	(2)	(1)
2. Lecturers are specialist in his/her career, which help you meet the learning needs in this program	(5)	(4)	(3)	(2)	(1)
3. Lecture materials, facilities, equipment and supplies were appropriate for the program	(5)	(4)	(3)	(2)	(1)
4. Hand on in OpenSource (QGIS), UAV and 3D Model are improved your technical Geoinformatics skill	(5)	(4)	(3)	(2)	(1)
5. The amount of lecture classes, study hours or time dedicated to academic learning were sufficient for you	(5)	(4)	(3)	(2)	(1)
6. Visiting Geoinformatics organizations (government & private sectors) are good opportunity to learn and build capacity for you	(5)	(4)	(3)	(2)	(1)
7. Accommodation at AIT is comfortable and safe for you	(5)	(4)	(3)	(2)	(1)
8. You are happy with the choice of curricular and extracurricular activities during this program	(5)	(4)	(3)	(2)	(1)
9. You learned the local culture through local life style like places, food, people, etc.	(5)	(4)	(3)	(2)	(1)
10. You are happy with the quality and taste of food, drinks and snacks provided for your study brake	(5)	(4)	(3)	(2)	(1)
11. This program is good chance to obtain experience in multicultural environment	(5)	(4)	(3)	(2)	(1)
Statement	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
12. Overall, please rate your satisfaction score for the Summer School in Bangkok 2024 program	(5)	(4)	(3)	(2)	(1)

Please rank only top 3 of preferable organizations/ attractive places that you visited during the program in order of satisfaction, from 1 to 3, where 1 is the most preferable.

_____ GISTDA Sriracha and Space Inspirium
_____ Kubota smart farm
_____ Electricity Generating Authority of Thailand (EGAT)
_____ Ayutthaya cultural

Comment & Suggestion:

_____
_____
_____
_____
_____
_____

Thank you for your cooperation