REPORT

One Week Student Workshop

On

Edge Device & Smart Thinking: IOT in 2025

(Under the aegis of IOT-Centre of Excellence)

22nd – 26th September 2025

Submitted By

Dr. Aakriti Sharma Associate Professor (CSE), SKIT
Dr. Nilam Choudhary Associate Professor (CSE), SKIT
Dr. Yogendra Gupta, Associate Professor (CSE), SKIT

Organized by

Department of Computer Science & Engineering (NBA Accredited)
Swami Keshvanand Institute of Technology, Management &Gramothan,
Jaipur-302017

About SKIT

Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT) inspired from the learnings of Swami Keshvanand, was established in the year 2000 by Technocrats and Managers Society of Advanced Learning and Gramothan. Today the institute is recognized as one of the centers of academic excellence in Northern India. The Institute is affiliated to Rajasthan Technical University, Kota for offering Postgraduate and Graduate Courses in Engineering and Management. SKIT has been ranked no.1 engineering institute in Rajasthan by RTU, Kota consecutively for the last five years. The various undergraduate programmes of the institute are accredited by the National Board of Accreditation (NBA). Recently SKIT has achieved one more milestone under its flag with becoming the only affiliated technical institute in Rajasthan having an A++ grade from NAAC. The institute always promotes quality in academics and research by creating the required environment through infrastructural development, staff and faculty members, and other outreach activities.

Vision: To promote higher learning in advanced technology, management skills and industrial research to make our country a global player

Mission: To promote quality education, training and research in the field of engineering & management by establishing effective interface with industry and to encourage faculty to undertake industry sponsored projects for students.

Quality Policy: We are committed to 'achievement of quality' as an integral part of our institutional policy by continuous self-evaluation and striving to improve ourselves.
Institute would pursue quality in
• All its endeavours like admissions, teaching- learning processes, examinations, extra and co-curricular activities, industry institution interaction, research & development, continuing education, and consultancy.
• Functional areas like teaching departments, Training & Placement Cell, library, administrative office, accounts office, hostels, canteen, security services, transport, maintenance section and all other services..

About Department of CSE

CSE Department of SKIT is NBA accredited and offer undergraduate programmes in CSE, CSE-AI, CSE-DS, and CSE-IOT, postgraduate and Ph.D. programmes in CSE. The major areas of research are Big Data Analytics, Cloud Computing &Virtualization, Artificial Intelligence, Security, Compilers& Programming Languages, Internet of things, Computer Architecture, Bioinformatics and Theoretical Computer Science. CSE Department has number of laboratories equipped with the state-of-the-art computing facilities. The

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(An Autonomous Institute Affiliated to Rajasthan Technical
University, Kota)
Department of Computer Science & Engineering

Department is also having a "Centre of Excellence in IoT" recognized by Rajasthan Technical University, Kota.

About the Event

The One-Week Student Workshop on "IoT in 2025" was organized by the Department of Computer Science & Engineering, SKIT Jaipur, from 22nd to 26th September 2025. The workshop was conducted under the aegis of the Centre of Excellence – IoT (COE IoT), in collaboration with the TechnoS Centre of Excellence, Jaipur. The workshop aimed to provide students with hands-on exposure to the rapidly evolving domain of the Internet of Things (IoT), with a special focus on its futuristic applications in the year 2025 and beyond. It brought together a blend of theoretical concepts, practical demonstrations, and real-time project-based learning to ensure that participants could connect academic knowledge with industrial requirements.

Over the course of the week, students were introduced to cutting-edge technologies such as IoT edge devices, smart sensors, cloud integration, artificial intelligence-driven IoT systems, and 5G-enabled IoT architectures. Sessions were conducted by experienced faculty members, industry experts, and resource persons from the Centre of Excellence, who guided the participants through case studies, prototype development, and emerging research trends.

The workshop also emphasized multidisciplinary applications of IoT in smart cities, healthcare, transportation, agriculture, and industrial automation. Interactive lab sessions allowed students to design and simulate IoT-enabled solutions using industry-standard tools and platforms. In addition, group activities and mini-projects encouraged collaborative learning and problem-solving skills.

The primary objectives of the workshop were to:
• Familiarize students with the latest IoT frameworks and platforms.
• Enable hands-on experience with IoT hardware and software ecosystems.
• Encourage students to think innovatively about future applications of IoT in 2025.
• Bridge the gap between academic learning and industry practices.

The concluding day featured presentations of student projects, where participants showcased their innovative IoT-based prototypes addressing real-world challenges. The workshop received enthusiastic participation, reflecting the keen interest of students in exploring IoT as a career-oriented and research-driven field.

Overall, the workshop was a highly enriching experience that provided students with the skills, knowledge, and confidence to contribute to the IoT revolution, aligning with the vision of SKIT Jaipur to nurture industry-ready engineers equipped with emerging technologies.

Schedule Of Workshop

Content delivered by TCOE mentor (Mr. J.V.N Sharma):

Day	Session #	Timing	Topic	Activities
Day 1	1	9:00 – 9:30 AM	Workshop Overview: IoT and its trends (Industry 4.0)	Ice-breaking, introduction to IoT applications, discussion on Industry 4.0 use-cases
	2	9:30 – 11:00 AM	Introduction to ESP32 and Arduino IDE, ESP32 Pinout, working and its application, Arduino IDE setup, ESP32 setup	Install Arduino IDE, connect ESP32, test first program, explore pin diagram
	3	12:15– 2:15 PM	Breadboard basics, Arduino IoT Cloud setup, web server, Experiment 1: Blinking inbuilt LED using ESP32, Experiment 2: Multiple LEDs blinking using ESP32.	Hands-on wiring with breadboard, upload LED blink codes, control multiple LEDs
Day 2	1	9:00 – 11:00 AM	Experiment 3: Create 4 switches on Arduino IoT cloud/web server to control four LEDs.	Build IoT dashboard with switches, test real-time LED control via cloud and browser
	2	12:15– 2:15 PM	Experiment 4: Ultrasonic sensor (distance) + ESP32 + Serial monitor + Arduino IoT Cloud + Web Server	Measure distance, visualize values on Serial monitor, upload live data to IoT Cloud, display results on web server
Day 3	1	9:00 – 11:00	Experiment 5: DHT11 (temp & humidity) + ESP32 + Serial monitor + Arduino IoT Cloud	Connect DHT11, monitor live temperature/humidity,

		AM		log and visualize on Arduino IoT Cloud
	2	12:15–2:15 PM	Experiment 6: NTC-10k thermistor + ESP32 + Arduino IoT cloud + serial monitor + web server	Interface thermistor via voltage divider, calibrate readings, upload to IoT Cloud & web server
Day 4	1	9:00 – 11:00 AM	Experiment 7: PIR sensor + ESP32 + Arduino IoT cloud + serial monitor + web server	Connect PIR sensor, detect motion, send alerts on Serial monitor & IoT Cloud, visualize detection on web page
	2	12:15–2:15 PM	Experiment 8: Relay + ESP32 + Arduino IoT cloud + serial monitor + web server	Control relay with ESP32, simulate appliance switching, integrate remote control from IoT Cloud/web
Day 5	1	9:00 – 11:00 AM	Experiment 9: Ultrasonic sensor (distance) + DHT11 (temp & humidity) + ESP32 + Google script + Serial monitor	Collect multi-sensor data, send to Google Sheets via Google Script, visualize on Serial Monitor
	2	12:15–2:15 PM	Experiment 10 : Ultrasonic sensor (distance) + DHT11 (temp & humidity) + NTC-10k thermistor + PIR sensor + ESP32 + Serial monitor + Google script	Final integrated IoT system, log multi-sensor data to Google Sheets

Workshop Brochure

Department of Computer Science & Engineering
(under the aegis of IOT-COE)
in collaboration with the TechnoS Centre of Excellence ,Jaipur,
on

EDGE DEVICES & SMART THINKING: IOT IN 2025

Event Details:

Dates: 22nd – 26th September, 2025

Time: 9:15 AM – 2:15 PM

Venue: COE IOT, CS Block

Mr. J. V. N. Sharma
Research Scientist
TechnoS Instruments, Jaipur

Faculty Coordinators

Dr. Aakriti Sharma(9829800727)

Dr. Nilam Choudhary (9829803880)

Dr. Yogendra Gupta(9468739571)

SCAN ME

Registration Fee: Nil

Last Date for Registration: 20th September, 2025

Learning Outcome

- Fundamentals of IoT architectures and protocols
- Role of edge devices and sensors in IoT
- Cloud and data integration for IoT applications
- Designing IoT-based projects for real-world use cases
- Importance of IoT in Industry 4.0 and Smart Cities

Glimpses of Inaugural Ceremony

एसकेआईटी में COE IoT लैब, CS ब्लॉक में '2025 में IoT' विषय पर एक पूर्व-सम्मेलन छात्र कार्यशाला का किया उद्घाटन

(आयुष-अनिमा नेटवर्क) जयपुर (श्रीराम इंदौरिया)। स्वामी केशवानंद प्रौद्योगिकी, प्रबंधन एवं ग्रामोत्थान संस्थान (SKIT), जयपुर के कंप्यूटर विज्ञान एवं इंजीनियरिंग विभाग ने सेंटर ऑफ एक्सीलेंस जयपुर के सहयोग से 8वें अंतर्राष्ट्रीय सम्मेलन ICETCE-2025 के अंतर्गत 22 सितंबर 2025 को COE IoT लैब, CS ब्लॉक में '2025 में IoT' विषय पर एक पूर्व-सम्मेलन छात्र कार्यशाला का उद्घाटन किया। कार्यशाला में नैनो टेक्नोलॉजी और सेमी कंडक्टर उपकरणों के प्रसिद्ध विशेषज्ञ जेवीएन शर्मा की उपस्थिति में गरिमामयी उपस्थिति दर्ज कराई, जिन्होंने मुख्य भाषण दिया और एक लेखक, शोधकर्ता और शिक्षक के रूप में अपने अनुभव साझा किए। इस अवसर पर, सिविल इंजीनियरिंग विभाग के एसोसिएट

एसकेआईटी में COE IoT लैब, CS ब्लॉक में '2025 में IoT' विषय पर एक पूर्व-सम्मेलन छात्र कार्यशाला का किया उद्घाटन

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प्रोफेसर अनिरुद्ध माथुर ने विशिष्ट अतिथि का अभिनंदन किया। कार्यक्रम में कंप्यूटर विज्ञान एवं इंजीनियरिंग विभाग के प्रमुख प्रो.मेहुल मर्षि के उत्साहवर्धक शब्दों और बहुमूल्य सुझावों ने विशेष योगदान दिया, जिन्होंने छात्रों के भविष्य के करियर को आकार देने में उभरती प्रौद्योगिकियों के महत्व पर जोर दिया। उद्घाटन सत्र में छात्रों और संकाय सदस्यों की उत्साहपूर्ण भागीदारी देखी गई। 22 से 26 सितंबर 2025 तक आयोजित होने वाली इस कार्यशाला का उद्देश्य प्रतिभागियों को ट्रेनड्स की अत्याधुनिक अवधारणाओं से व्यावहारिक परिचय कराना, नवाचार और शोध-आधारित शिक्षा को बढ़ावा देना है। कार्यक्रम का समन्वयन डॉ.आकृति शर्मा, डॉ.नीलम चौधरी और डॉ.योगेंद्र गुप्ता द्वारा किया जा रहा है।
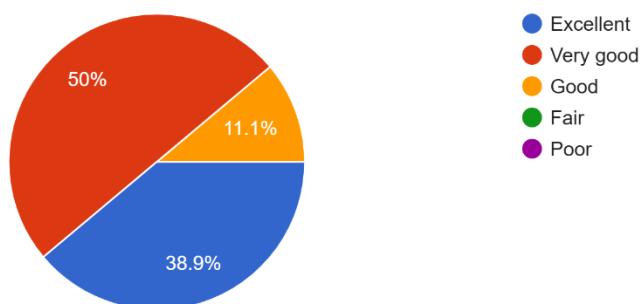
![SKIT logo]

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Swami Keshvanand Institute of Technology,
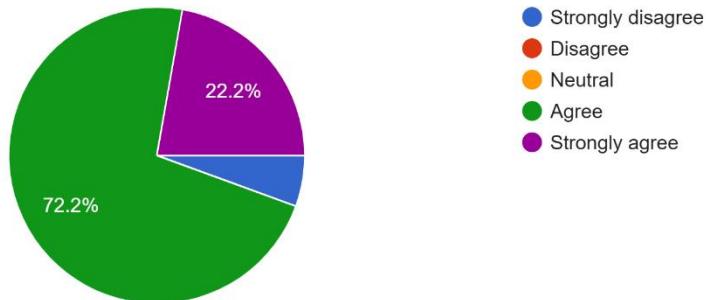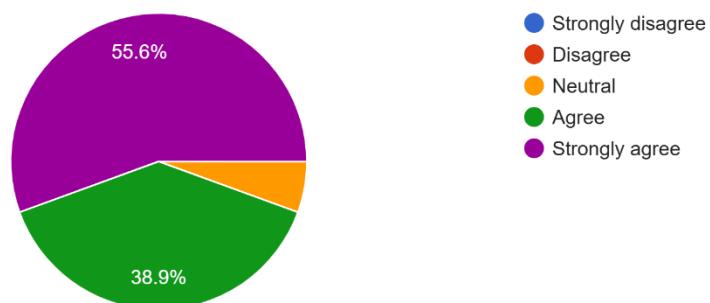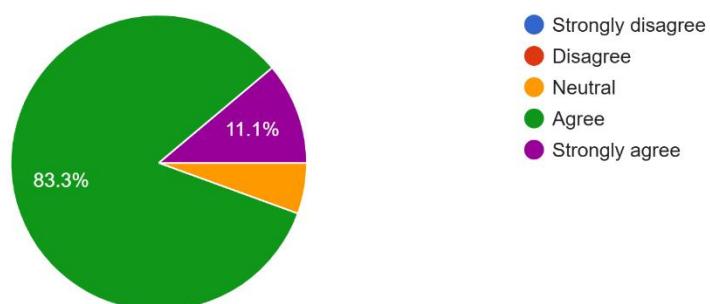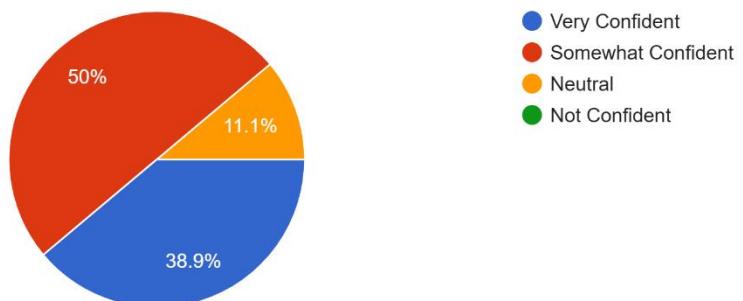Management & Gramothan
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University, Kota)
Department of Computer Science & Engineering

Feedback Analysis

Workshop Content & Delivery
18 responses

- Excellent
- Very good
- Good
- Fair
- Poor

50%
11.1%
38.9%

The objectives of the workshop were clear.
18 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

22.2%
72.2%

The topics covered were relevant and useful
18 responses
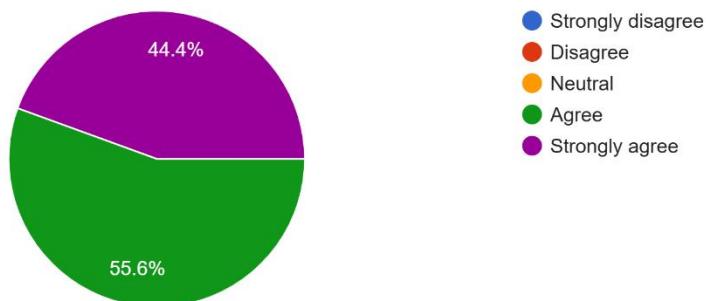
- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

44.4%
55.6%

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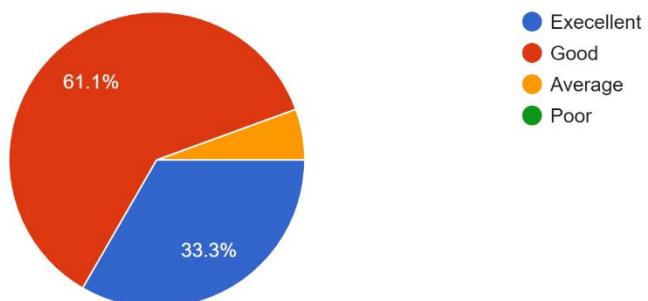University, Kota)
Department of Computer Science & Engineering

The session improved your understanding of Edge Devices & IoT

18 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

55.6%
38.9%

The resource person's presentation skills were effective

18 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

11.1%
83.3%

The pace of the workshop was appropriate

18 responses
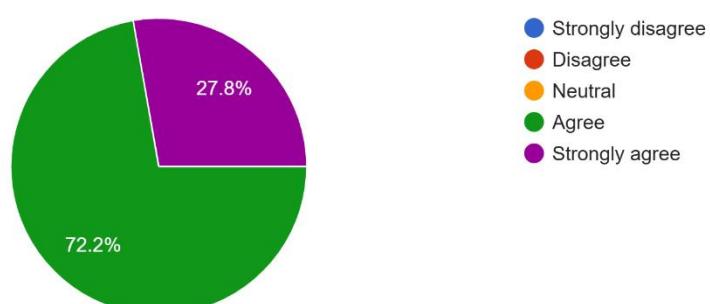
- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

27.8%
72.2%

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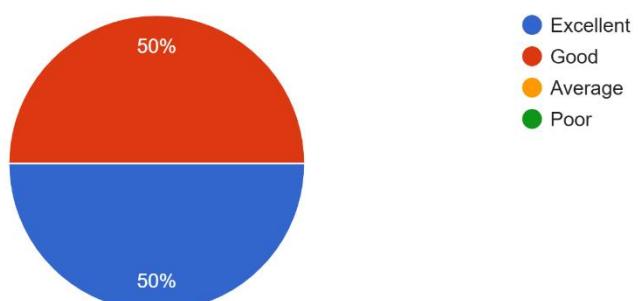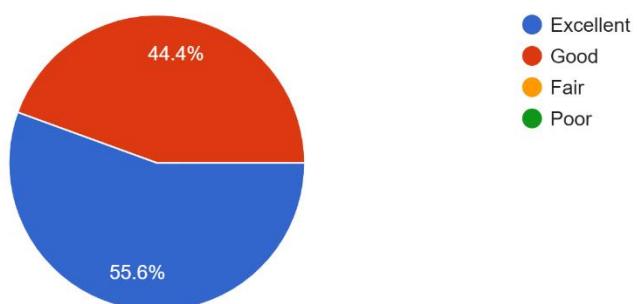How confident are you in applying the knowledge gained?

18 responses

- ● Very Confident
- ● Somewhat Confident
- ● Neutral
- ● Not Confident

50%

11.1%

38.9%

Quality of workshop materials (slides, handouts, etc.)

18 responses

- ● Execellent
- ● Good
- ● Average
- ● Poor

61.1%

33.3%

Venue & technical arrangements

18 responses

- ● Excellent
- ● Good
- ● Average
- ● Poor

50%

50%

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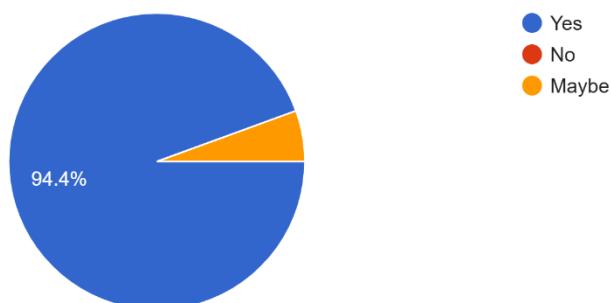
Time management of sessions
18 responses

- ● Execellent
- ● Good
- ● Average
- ● Poor

55.6%
38.9%
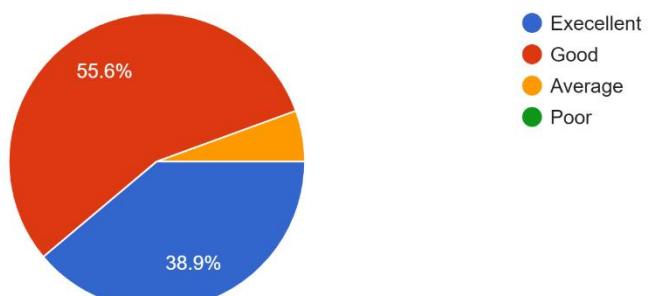
Overall, how would you rate the workshop?
18 responses

- ● Excellent
- ● Good
- ● Fair
- ● Poor

44.4%
55.6%

Would you recommend this workshop to your peers?
18 responses

- ● Yes
- ● No
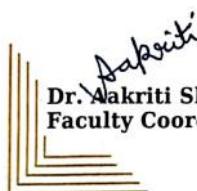- ● Maybe

94.4%

Sample Copy of Participant's Certificate

Swami Keshvanand Institute of Technology,
Management & Gramothan, Jaipur
(An Autonomous Institute Affiliated to Rajasthan Technical University, Kota)

CERTIFICATE
OF PARTICIPATION
PROUDLY PRESENTED TO

Ishaan Parashar

for particiapting in one week Student Workshop on **"Edge Devices & Smart Thinking: IOT in 2025"** organized by department of Computer Science & Engineering, SKIT M& G, in association with the Centre of Excellence-IOT Jaipur, from 22nd Sep-26th Sep 2025.

Dr. Aakriti Sharma
Faculty Coordinator

Dr. Nilam Choudhary
Faculty Coordinator

Prof. Dr. Mehul Maharshi
Head of Department, CSE

Swami Keshvanand Institute of Technology, Management & Gramothan

Ramnagaria (Jagatpura) Jaipur-17
(An Autonomous Institute Affiliated to Rajasthan Technical University, Kota)
Department of Computer Science & Engineering

List of Participants (SKIT) Eligible for Certificates:

S.NO.	NAME OF STUDENT	RTU ROLL NO.
1.	Kartik Sharma	24ESKCY023
2.	Ishaan parashar	24ESKCY020
3.	Mahesh verma	24ESKCY028
4.	KULDEEP UPADHYAY	24ESKCY024
5.	Kamlesh Joya	24ESKCE046
6.	Dhairya jain	24ESKCY015
7.	Laxmi sahu	24ESKCY301
8.	Shrestha kumar mishra	24ESKCY051
9.	Tanishq Agarwal	24ESKCY055
10.	Safalta	24ESKCYO45
11.	Rakshita Jain	24ESKCY042
12.	Prakhar Kabra	24ESKCY039
13.	Ruchika Saini	24ESKCY044
14.	Sonam kumari	24ESKCYO53
15.	Sajal Singhal	24ESKCS303
16.	Nikhil Rathore	24ESKCY035
17.	MANSI SHARMA	24ESKCY029
18.	Mahak Gupta	24ESKCY026
19.	Harsh Maheshwari	24ESKCY017
20.	Om Bijwani	24ESKCY036
21.	Vijendra Kumar mourya	24ESKCY060
22.	VISHAL KUMAR	24ESKCY062
23.	Prateek Singh	24ESKCY040
24.	Yash Adlakha	24ESKCY063
25.	Pratham Dubey	24ESKCY041
26.	Mohit Hudda	24ESKCY033

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Conclusion

The workshop was highly successful, with students actively engaging in discussions, hands-on sessions, and project presentations. During the closing ceremony, the importance of IoT in shaping future technologies was emphasized, encouraging students to continue their learning journey in this domain.The event was well-coordinated by the faculty team and enriched by the expert guidance of Mr. J. V. N. Sharma. Overall, the workshop strengthened the academic-industry collaboration and prepared students for IoT-driven innovations.