كلية الهندسة
College of Engineering

جامعة الملك خالد
KING KHALID UNIVERSITY

ELECTRICAL ENGINEERING DEPARTMENT REPORT (471)

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Executive summary

THE ELECTRICAL ENGINEERING DEPARTMENT IS A CORE ACADEMIC UNIT WITHIN THE COLLEGE OF ENGINEERING, DEDICATED TO PREPARING QUALIFIED ENGINEERS WITH SOLID FOUNDATIONS IN ELECTRICAL ENGINEERING DISCIPLINES. THE DEPARTMENT SUPPORTS THE COLLEGE'S MISSION THROUGH HIGH-QUALITY EDUCATION, CONTINUOUS IMPROVEMENT, AND PROFESSIONAL ENGAGEMENT.

THE DEPARTMENT OFFERS ACCREDITED UNDERGRADUATE AND GRADUATE PROGRAMS DESIGNED TO MEET ACADEMIC STANDARDS AND LABOR MARKET NEEDS. IT EMPHASIZES THE INTEGRATION OF THEORY AND PRACTICE THROUGH LABORATORY WORK, ENGINEERING PROJECTS, AND COOPERATIVE TRAINING. FACULTY MEMBERS AND STUDENTS ACTIVELY PARTICIPATE IN RESEARCH, PROFESSIONAL ACTIVITIES, AND COMMUNITY SERVICE INITIATIVES, PARTICULARLY THROUGH STUDENT CHAPTERS AFFILIATED WITH THE DEPARTMENT, INCLUDING THE IEEE STUDENT BRANCH. THESE EFFORTS CONTRIBUTE TO ENHANCING STUDENTS' TECHNICAL COMPETENCIES, PROFESSIONAL SKILLS, AND READINESS TO CONTRIBUTE EFFECTIVELY TO NATIONAL DEVELOPMENT AND FUTURE TECHNOLOGICAL ADVANCEMENTS.

THE DEPARTMENT OF ELECTRICAL ENGINEERING

Vision

To be a globally recognized leader in electrical engineering education, research, and innovation, producing graduates who drive technological advancement and sustainable development.

Mission

To deliver high-quality electrical engineering education aligned with international standards, foster impactful research and innovation, and build strong partnerships with industry and society to prepare competent, ethical, and future-ready engineers.

Objectives

To equip students with advanced technical knowledge, strong analytical and problem-solving skills, research capability, professional ethics, and practical experience aligned with global electrical engineering trends and industry needs.

MESSAGE FROM THE HEAD OF THE DEPARTMENT

جامعة الملك خالد
KING KHALID UNIVERSITY

The Department of Electrical Engineering at King Khalid University takes pride in the active and distinguished participation of its students throughout this academic year, reflecting their ability to translate academic knowledge into practical engineering solutions. Students took part in specialized initiatives, most notably the “Electrathon” Hackathonorganized by the Saudi Electricity Regulatory Authority, where they presented innovative solutions in the fields of energy, regulation, and sustainability.

On the research side, students contributed to local and international conferences through scientific papers and technical work in electrical engineering and intelligent systems, demonstrating strong research awareness and professional readiness.

The department also acknowledges the vital role of the IEEE KKU Student Branch in bridging the gap between academic study and labor market needs, particularly through its Research and Innovation Unit, which enabled students to independently work on engineering projects, posters, and scientific papers, significantly enhancing their technical, research, and professional skills.

The department remains committed to supporting such initiatives and empowering its students to achieve continued excellence in line with the university’s strategic vision.

Dr. Mohammed Alammar

Chairman of the Electrical Engineering Department
at King Khalid University

The Department of Electrical Engineering

Overview

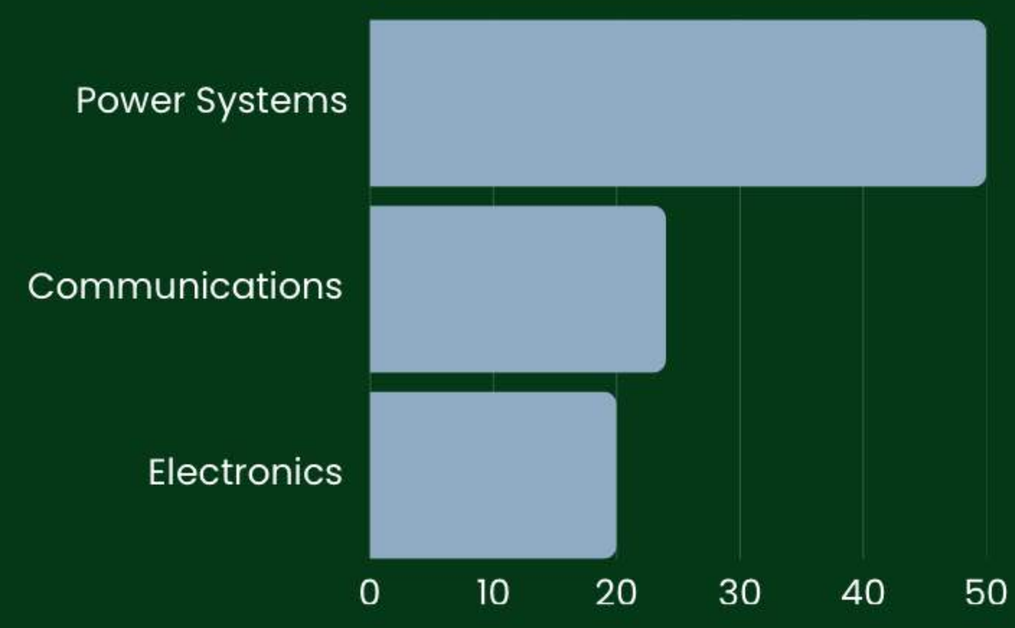
Students Enrolled	Faculty Members	Co-op & International Training Students	Credit Hours
786	38	+70	161

Student Participation

+49 Local Competitions Participants

+23 International Conferences Participants

Elective-Based Student Specialization



Programs and Volunteer Impact

+46	+4890	+65	+2780h
Programs Offered	Program Beneficiaries	Volunteers	Volunteer Hours

Academic Accreditation

ABET — Accreditation Board for Engineering and Technology

اعتماد NCAAA

Student Organizations

IEEE KKU STUDENT BRANCH

IEEE KKU Student Branch Report 2025

KKU STUDENT BRANCH

MESSAGE FROM THE INSTITUTE PRESIDENT AND VICE PRESIDENT

جامعة الملك خالد
KING KHALID UNIVERSITY

We are proud of the strong position IEEE KKU continues to achieve through sustained effort, high-impact initiatives, and a clear academic and professional vision. This report highlights our commitment to actively engaging students in engineering activities, technical events, and industrial visits that broaden their technical knowledge, enhance practical skills, and strengthen social and professional communication. Through these efforts, we move steadily toward building the best version of IEEE KKU ever.

Bandar Saad Alshehri

Chairman of the IEEE Student Branch, King Khalid University

This report reflects the dedication and teamwork that define IEEE KKU's progress and growing influence. By creating opportunities for students to participate in engineering events, industry visits, and collaborative activities, we aim to expand their technical capabilities while developing their interpersonal and networking skills. With focused planning and continuous improvement, we are confidently advancing toward the most impactful and comprehensive IEEE KKU experience yet.

Turki Omar Alshehri

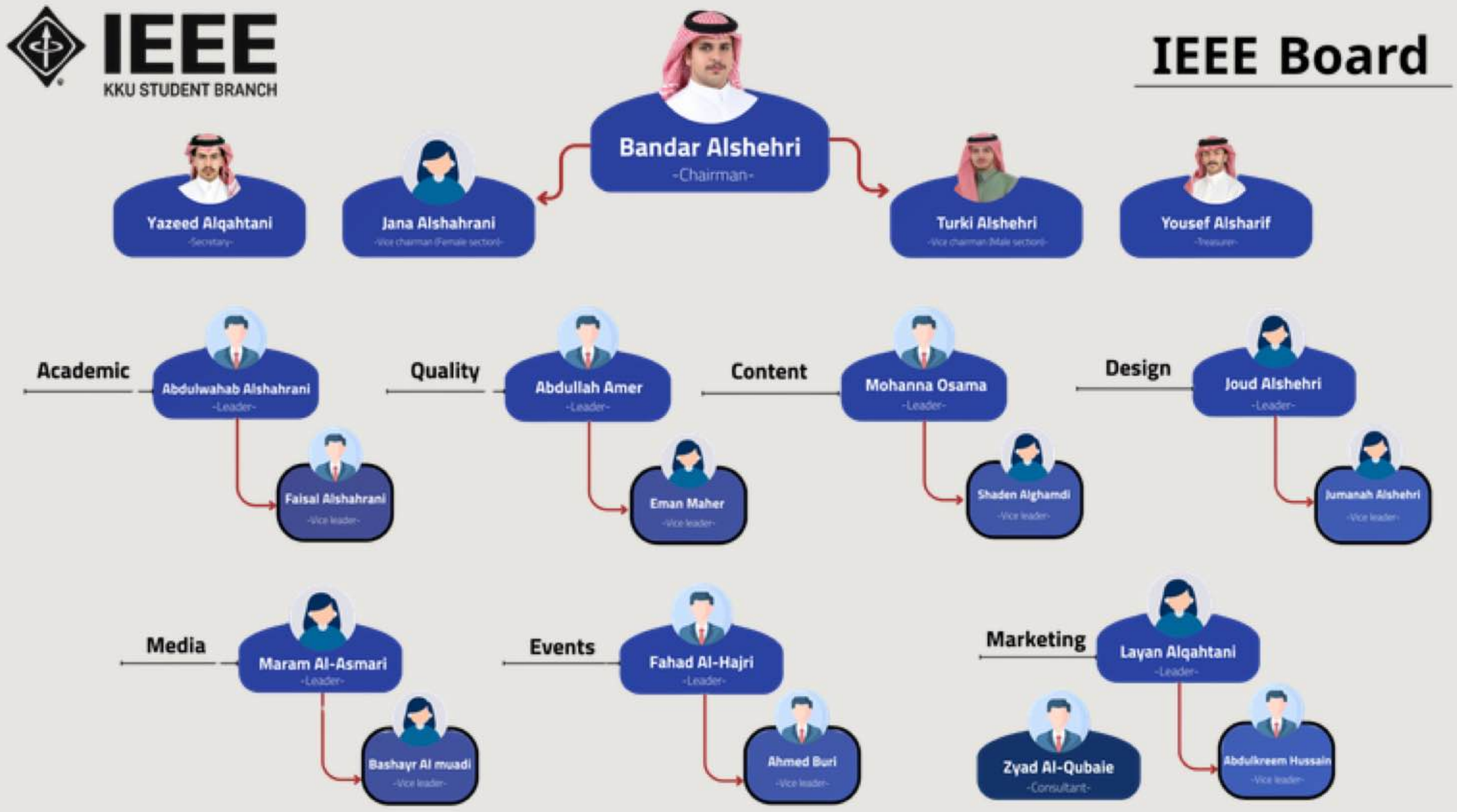
Vice Chairman of the IEEE Student Branch, King Khalid University

Introduction

The IEEE KKU Student Branch serves as a professional and academic platform dedicated to empowering engineering students through technical, educational, and community-oriented activities. As part of the global Institute of Electrical and Electronics Engineers (IEEE), the branch aims to bridge the gap between academic learning and professional practice by fostering innovation, technical excellence, and leadership among its members.

During one academic semester, the IEEE KKU Student Branch implemented a focused set of high-impact activities aligned with IEEE objectives and the university's academic mission. These activities included technical workshops, engineering field visits, conference participation, and innovation-driven initiatives, all designed to enhance students' technical competencies, professional awareness, and practical exposure. This report provides a concise overview of the activities conducted within the semester, highlighting key achievements, outcomes, and lessons learned.

Organizational Structure



THE IEEE KKU STUDENT BRANCH OPERATES UNDER A CLEAR ORGANIZATIONAL FRAMEWORK DESIGNED TO ENSURE EFFECTIVE GOVERNANCE, ACCOUNTABILITY, AND EFFICIENT EXECUTION OF ACTIVITIES THROUGHOUT THE ACADEMIC SEMESTER. THE STRUCTURE PROMOTES COLLABORATION AMONG TEAMS WHILE ALIGNING RESPONSIBILITIES WITH THE BRANCH'S STRATEGIC OBJECTIVES.

THIS ORGANIZATIONAL STRUCTURE ENABLED EFFICIENT TASK DISTRIBUTION, EFFECTIVE COMMUNICATION, AND SUCCESSFUL DELIVERY OF ACTIVITIES WITHIN THE ONE-SEMESTER REPORTING PERIOD.

Objectives

DURING THE ACADEMIC SEMESTER, THE IEEE KKU STUDENT BRANCH FOLLOWED A STRUCTURED ACTIVITY PLAN ALIGNED WITH IEEE OBJECTIVES AND THE UNIVERSITY'S ACADEMIC MISSION. THE SEMESTER PLAN FOCUSED ON ACHIEVING THE FOLLOWING FOUR MAIN OBJECTIVES:

1

Enhance Technical Competency

To strengthen students' technical knowledge through workshops, seminars, and exposure to applied engineering concepts.

2

Increase Practical and Industry Exposure

To bridge the gap between theory and practice by organizing engineering field visits and engaging with industry professionals.

3

Support Innovation and Project-Based Learning

To encourage creativity and hands-on learning through innovation initiatives and student-led engineering projects.

4

Develop Professional and Leadership Skills

To enhance teamwork, leadership, communication, and organizational skills among members through active participation in IEEE activities.

Partnerships and Collaborations

The IEEE KKU Student Branch established two key strategic partnerships that directly supported the success of its activities and events.

The first partnership was with Asl Café as the hospitality partner, whose support contributed to enhancing the overall event experience through professional hospitality services. The second partnership was with Barq Media as the media partner, providing high-quality media coverage and documentation that strengthened the branch's visibility and outreach.

HOSPITALITY PARTNER

MEDIA PARTNER

BARQ
MEDIA TEAM

The IEEE KKU Student Branch extends its sincere appreciation to both partners for their valuable support and collaboration, which played an effective role in supporting event execution, improving attendee experience, and enhancing the professional image of the branch.

Innovation Unit

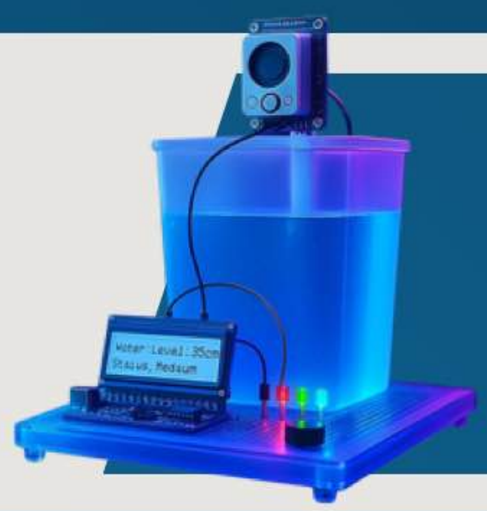
The Innovation Unit aims to enhance students technical efficiency and practical skills by engaging them in hands-on engineering projects and real-world challenges. The unit focuses on developing students ability to apply engineering concepts, manage projects within defined timeframes, and systematically identify and resolve technical issues, thereby strengthening problem-solving, teamwork, and professional readiness.

Eco Bin

A smart system that uses sensors and Arduino to automatically sort waste into plastic, metal, and paper efficiently.

Eco Farm IoT

A solar-powered smart agriculture system using ESP32 to monitor environmental conditions and transmit data wirelessly for remote crop management.



HydroSense

A low-cost smart system that monitors and automates domestic water usage, providing data analysis and real-time insights.

NovaBot

An AI-powered voice-controlled assistant robot using ESP32 to interact with users, perform tasks, and enable natural human-machine communication.

HelmSense

A smart safety helmet using ESP32 and IoT sensors to monitor workers' health and environmental conditions and send real-time alerts.

INNOVATION UNIT

IEEE KKU Innovation Unit

STUDENTS ACTIVELY ENGAGED IN HANDS-ON PROJECT DEVELOPMENT, APPLYING ENGINEERING CONCEPTS, TROUBLESHOOTING TECHNICAL CHALLENGES, AND REFINING THEIR SOLUTIONS THROUGH PRACTICAL IMPLEMENTATION.

November 2025

EcoBin – Smart Waste Sorting System

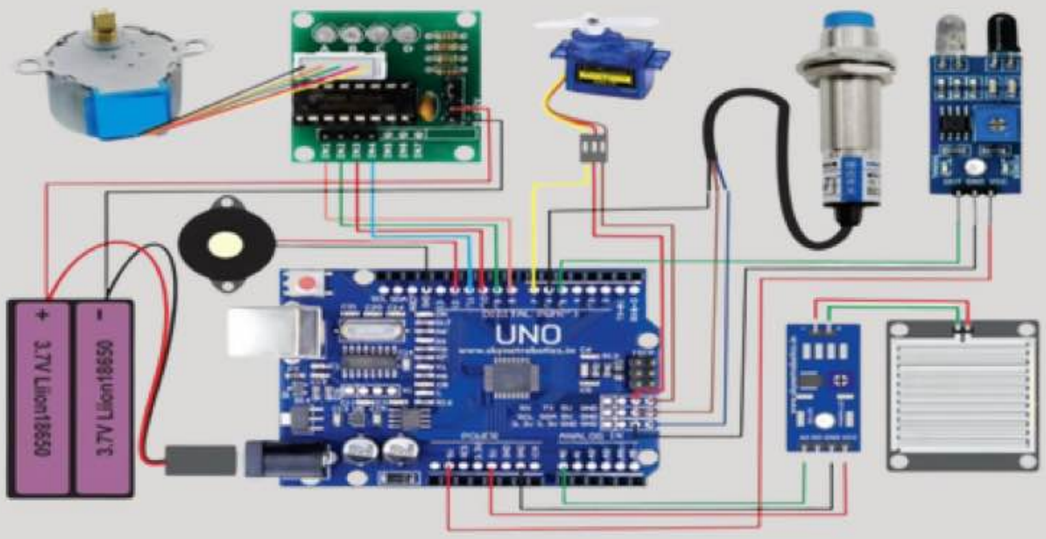
A smart waste-sorting system designed to automatically classify plastic, metal, and paper using advanced sensors and automated control mechanisms. The system addresses the inefficiencies, high labor costs, and errors associated with manual sorting by providing accurate, fast, and reliable waste separation. By enhancing sorting precision and reducing reliance on manual labor, improves recycling performance and supports cleaner, more sustainable waste-management practices.

Problem Statement

Objective

- Automate waste sorting
- Improve sorting accuracy
- Reduce manual labor
- Support sustainable recycling

Methodology



EcoBin Prototype

Results

- Accurate sorting of plastic, metal, and paper
- Faster process with reduced manual effort
- Improved recycling efficiency

Team & Supervisor

- Ghala Al Sultan
- Maram Alasmari
- Wijdan Al Arram
- Dema Almufarrih

Supervisor:

- Dr. Muneer Parayagat

EcoFarm – Smart Agriculture System

EcoFarm is an intelligent agricultural system designed to monitor key environmental parameters such as temperature, humidity, sunlight, and soil moisture to support healthy plant growth. The system features a scalable architecture that allows future integration of camera-based monitoring and AI image processing, enabling advanced analysis and smarter agricultural management.

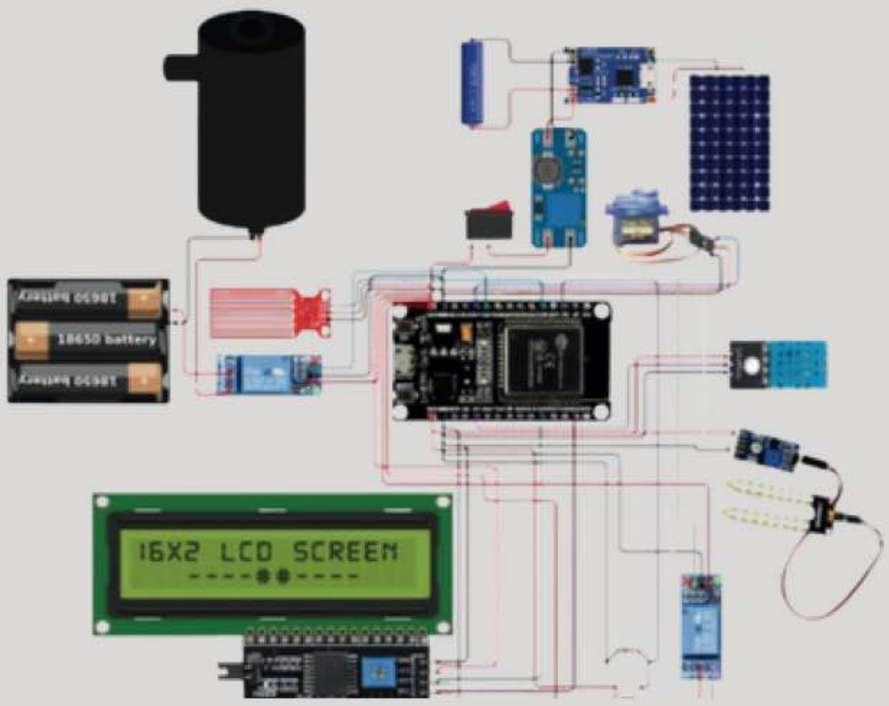
Problem Statement

- Lack of real-time environmental monitoring
- Late detection of plant stress
- Inefficient use of water and resources

Objective

- Monitor temperature, humidity, sunlight, and soil moisture.
- Improve crop growth and resource efficiency.
- Enable automated and data-driven decision making.
- Support sustainable and smart agriculture.

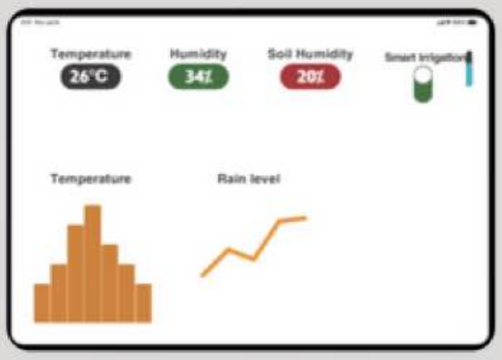
Methodology



EcoFarm Prototype

Results

Accurate measurement of environmental parameters



Team & Supervisor

- Ahmad Buri
- Ahmad Al-Asal
- Anas Asiri
- Jamaan Al-Sultan
- Faisal Alhazmy

Supervisor:

- Dr. Hassan Loukil

HydroSense - Smart Water Monitoring System

HydroSense is a smart water monitoring and automation system designed to optimize domestic water usage. It integrates ultrasonic level sensing with real-time water quality monitoring (pH and turbidity), automatically controlling the water pump to prevent dry-running and overflow, providing a low-cost and sustainable solution for efficient water management.

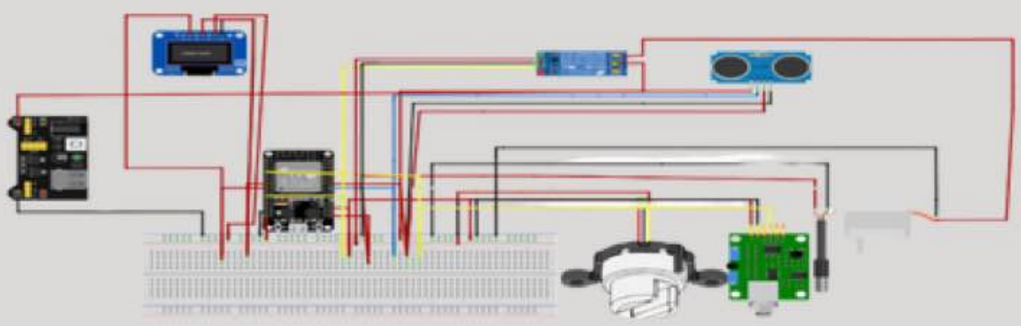
Problem Statement

- Lack of real-time water monitoring
- Water wastage due to overflow and dry-running
- Inefficient traditional mechanical solutions

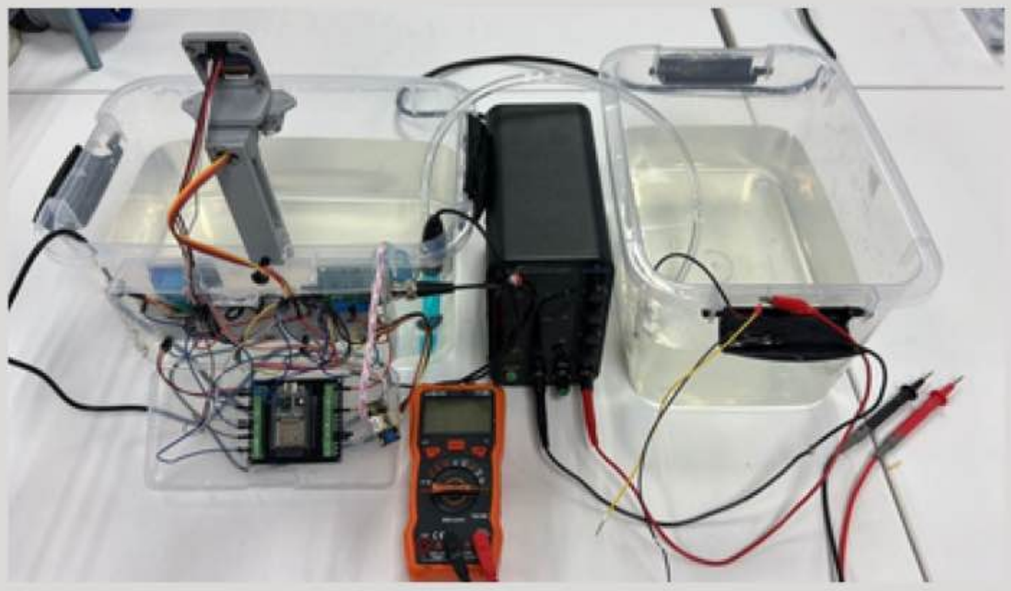
Objective

- Monitor water level and quality in real time
- Automate pump control to prevent overflow and dry-running
- Improve water efficiency and system reliability
- Support sustainable water management

Methodology



HydroSense Prototype



Results

Accurate real-time water level and quality monitoring.

Team & Supervisor

- Abdullah Alghamdi
- Abdulrahman Alshehri
- Majed Argabi
- Nawaf Alqahtani
- Saeed Alqahtani
- Abdulaziz Eldhari

Supervisor:

- Dr. Thafasal Ilyas

NovaBot – AI-Powered Assistant Robot

This project presents a compact AI-powered assistant robot based on the ESP32 platform, utilizing Wi-Fi and Bluetooth connectivity. The robot is capable of executing voice-controlled tasks such as question answering, basic navigation, and device control through integration with AI platforms such as ChatGPT. By combining speech recognition with intelligent processing, the system demonstrates an advanced and seamless human–machine interaction within a compact robotic platform.

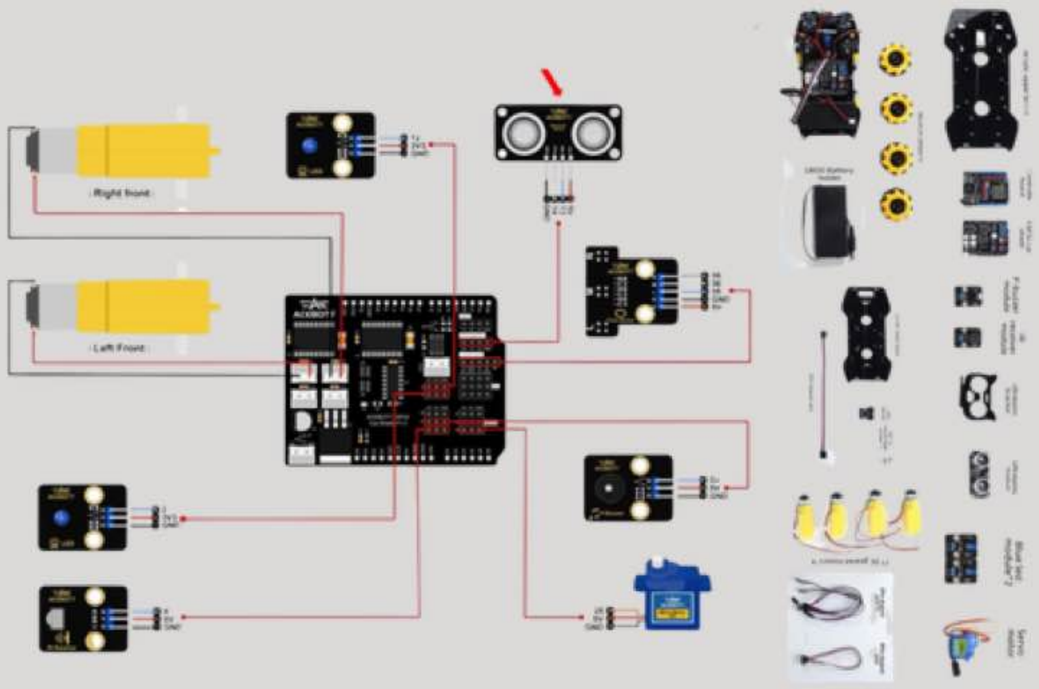
Problem Statement

- Traditional robots rely on manual or pre-programmed inputs
- Limited flexibility in human–machine interaction
- Need for intuitive voice-based control systems

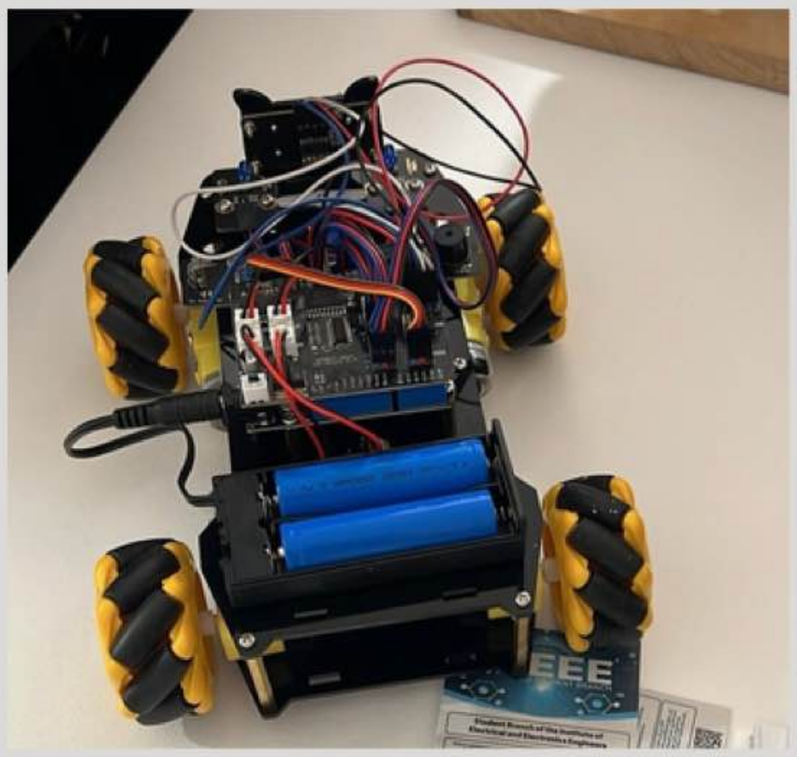
Objective

- Design a voice-controlled assistant robot
- Integrate AI for intelligent and dynamic responses
- Enable multi-tasking (Q&A, navigation, device control)
- Improve natural human–machine interaction

Methodology



NovaBot Prototype



Results

Accurate voice-command interaction with AI, basic navigation and device control, demonstrating effective human–machine interaction.

Team & Supervisor

- Shaden Alghamdi
- Jumana Alshehri
- Amjad Alshahrani
- Al-Afraa Omar
- Ghala Ali Asiri

Supervisor:

- Dr. Mohammed Farrag

HelmSense – Smart Engineering Safety System

HelmSense is an intelligent safety system developed to enhance worker protection in industrial and construction environments through real-time monitoring and automated alerts. The system integrates a smart helmet and a connected safety glove, both equipped with multiple sensors that continuously monitor environmental and physiological parameters, ensuring improved worker safety and enhanced situational awareness.

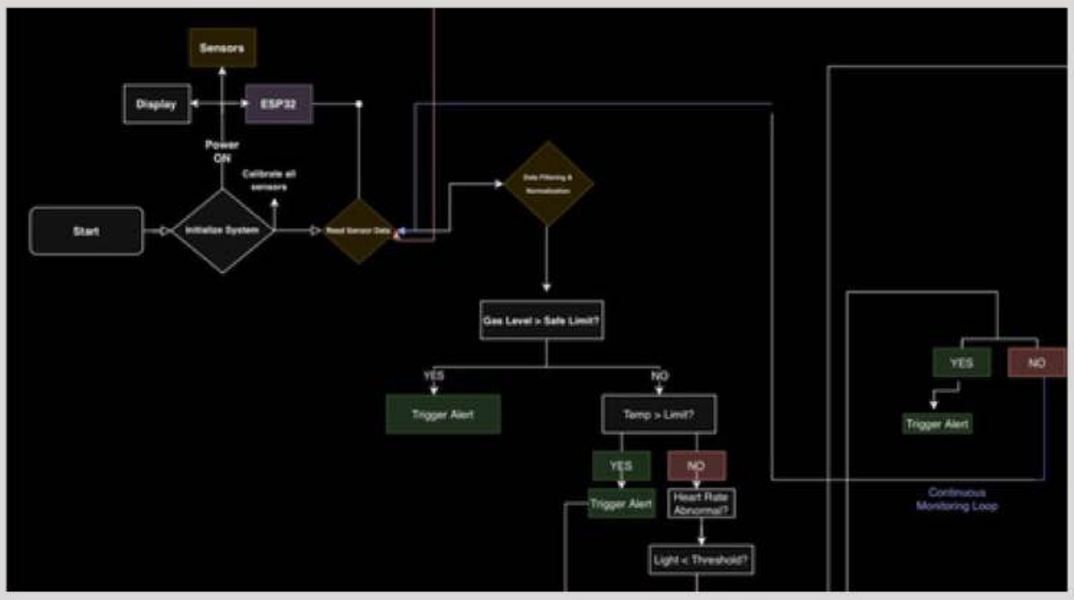
Problem Statement

- Industrial workers face high safety risks due to limited real-time monitoring
- Delayed detection of hazardous environmental and health conditions
- Lack of integrated smart safety solutions for situational awareness.

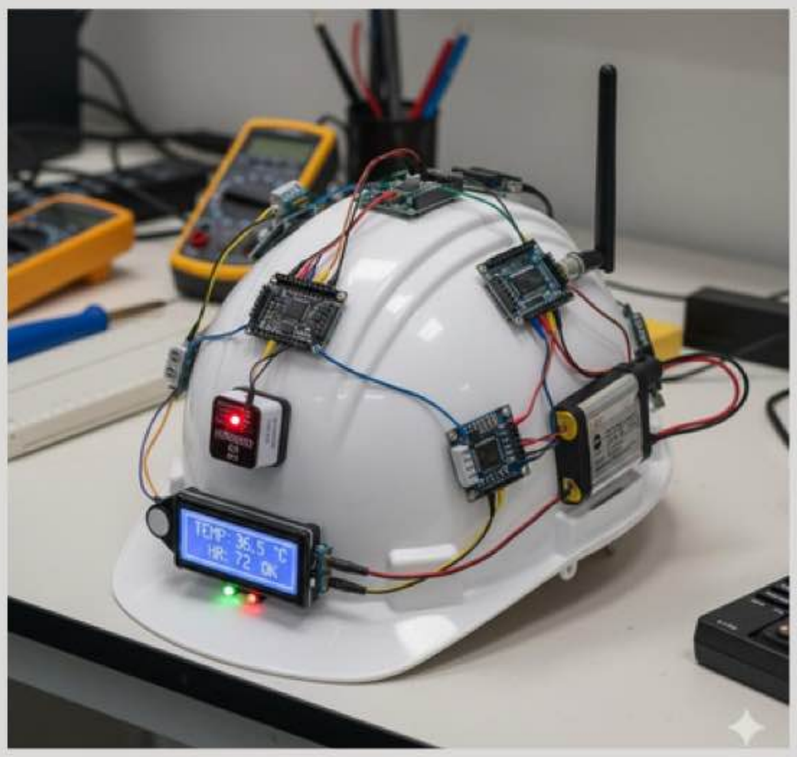
Objective

- Monitor workers' physiological and environmental conditions in real time
- Detect hazardous situations and trigger automatic alerts
- Improve situational awareness and workplace safety
- Enable wireless monitoring and data logging

Flowchart



HelmSense Prototype



Results

Real-time monitoring of worker health and environmental hazards with automated alerts, improving safety response and situational awareness.

Team & Supervisor

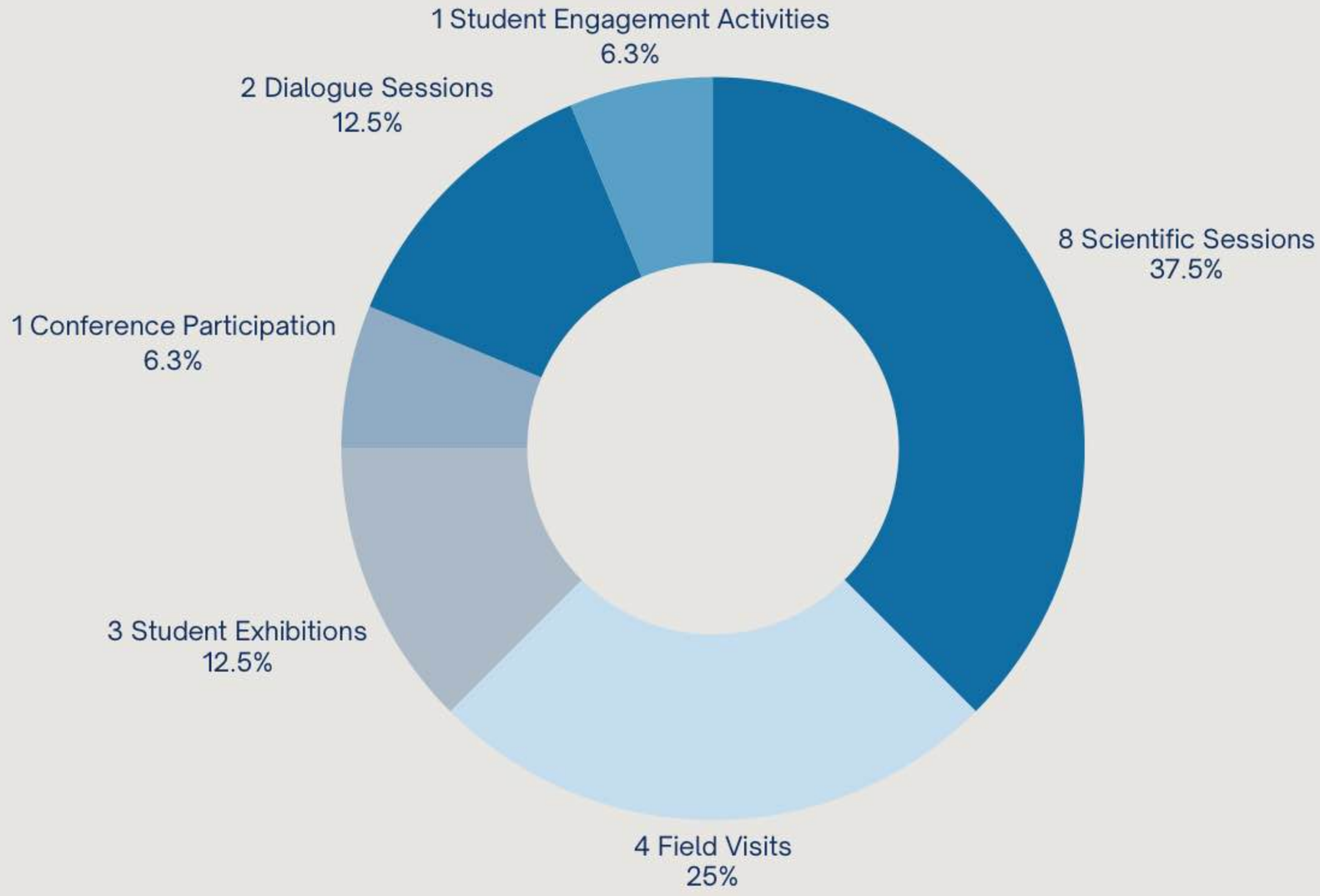
- Jana Alshahrani
- Eman Maher
- Bashayer Alahmri
- Dhafer Alamri
- Aseel Alshehri

Supervisor:

- Dr. Hany S. Hussein

Activities and Events

DURING THE ACADEMIC SEMESTER, THE IEEE KKU STUDENT BRANCH SUCCESSFULLY ORGANIZED A RANGE OF TECHNICAL AND PROFESSIONAL ACTIVITIES DESIGNED TO ACHIEVE ITS STRATEGIC OBJECTIVES. THE ACTIVITIES WERE CAREFULLY SELECTED TO PROVIDE BALANCED EXPOSURE ACROSS ACADEMIC, PRACTICAL, AND INNOVATION-ORIENTED DOMAINS.



ALL ACTIVITIES WERE CONDUCTED UNDER FACULTY SUPERVISION AND IN COORDINATION WITH RELEVANT PARTNERS, ENSURING QUALITY EXECUTION AND ALIGNMENT WITH IEEE STANDARDS. THE SUCCESSFUL IMPLEMENTATION OF THESE EVENTS WITHIN A SINGLE ACADEMIC SEMESTER REFLECTS EFFECTIVE PLANNING, TEAMWORK, AND COMMITMENT FROM ALL MEMBERS INVOLVED.

Industrial Visits

VISIT #01

الشركة السعودية للكهرباء
Saudi Electricity Company
نعمل بإتقان من أجلكم

VISIT #02

خزين
Khazeen

VISIT #03

شركة المياه الوطنية
National Water Company

VISIT #04

SBA
المملكة العربية السعودية
هيئة الإذاعة و التلفزيون
SAUDIBROADCASTINGAUTHORITY

Four engineering field visits were conducted across diverse technical sectors, providing students with hands-on exposure to real industrial environments. These visits contributed to bridging the gap between academic knowledge and practical application, while enhancing technical awareness and professional readiness.

SEC

الشركة السعودية للكهرباء
Saudi Electricity Company
نعمل بإتقان من أجلكم

1st Visit

AN ENGINEERING FIELD VISIT WAS CONDUCTED TO THE SAUDI ELECTRICITY COMPANY (SEC), PROVIDING STUDENTS WITH PRACTICAL INSIGHT INTO POWER GENERATION, TRANSMISSION, AND DISTRIBUTION SYSTEMS, AS WELL AS HANDS-ON EXPOSURE TO TRAINING WORKSHOPS COVERING SMART METERS, RENEWABLE ENERGY AND SOLAR PANELS.

2 October 2025

KHAZEEN

خـزيـــن
Khazeen

2nd Visit

AN ENGINEERING FIELD VISIT WAS CONDUCTED TO KHAZEEN COMPANY (GASCO AFFILIATE) IN KHAMIS MUSHAIT, PROVIDING STUDENTS WITH PRACTICAL EXPOSURE TO LPG FILLING AND DISTRIBUTION PROCESSES, SAFETY SYSTEMS, AND ENERGY OPERATIONS WITHIN AN INTEGRATED INDUSTRIAL ENVIRONMENT.

21 October 2025

NWC

شركة المياه الوطنية
National Water Company

3rd Visit

AN ENGINEERING FIELD VISIT WAS CONDUCTED TO THE NATIONAL WATER COMPANY (NWC) – SOUTHERN SECTOR REFERENCE LABORATORY, PROVIDING STUDENTS WITH PRACTICAL EXPOSURE TO WATER TREATMENT AND QUALITY CONTROL SYSTEMS, INCLUDING MONITORING AND CONTROL OF OPERATIONAL PARAMETERS IN ACCORDANCE WITH MODERN ENGINEERING STANDARDS.

6 November 2025

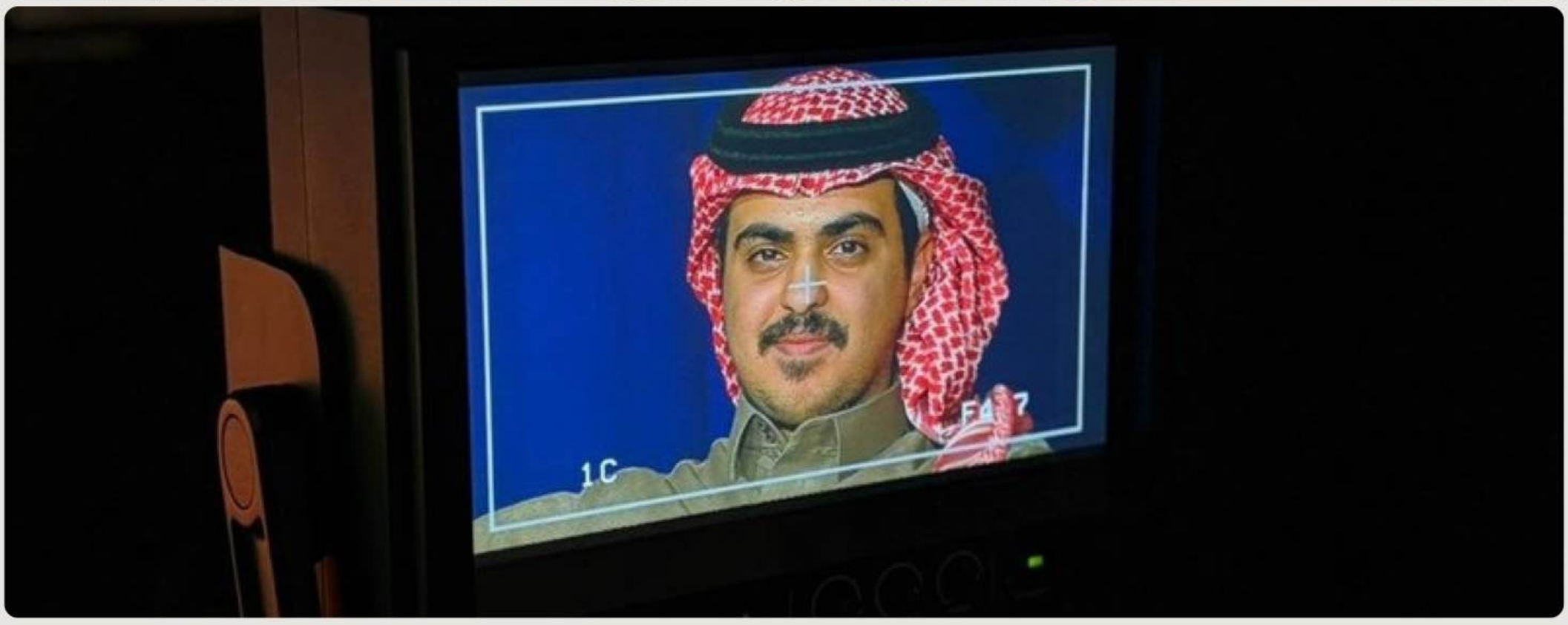
SBA

AN ENGINEERING FIELD VISIT WAS CONDUCTED TO THE SAUDI BROADCASTING AUTHORITY (SBA), PROVIDING STUDENTS WITH PRACTICAL INSIGHT INTO BROADCASTING AND COMMUNICATION SYSTEMS, INCLUDING STUDIO OPERATIONS, CONTROL ROOMS, DIGITAL SIGNAL PROCESSING, AND BROADCAST QUALITY MONITORING TECHNOLOGIES.

SBA
المملكة العربية السعودية
هيئة الإذاعة و التلفزيون
SAUDIBROADCASTINGAUTHORITY

4th Visit

13 November 2025



Scientific Sessions

A series of specialized scientific sessions aimed at enhancing students' technical knowledge, research awareness, and professional skills through expert-led discussions and practical learning experiences.

- Design, Construction, and Installation of Extra High Voltage Power Transmission Lines
- Understanding the Physical Meaning of Electrical Terminology
- Inspiring Session with Saudi ISEF 2025 Winners
- Unlocking Student Opportunities with IEEE PES Resources
- Basics of Microcontrollers Using Arduino
- Electrical Safety
- Creating Research References Using Mendeley
- Advances & Careers in Power and Energy Systems

1st Session

Design, Construction, and Installation of High Voltage Power Transmission Lines

Dr. Rizwan Tariq

Guest Speaker

10 September 2025

A technical scientific session covering the design principles, construction stages, and installation practices of extra high voltage (EHV) power transmission lines used in modern electrical power systems.

Key Insights :

Scientific Session	1.5 h	178	Google Meet
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

High

(11 questions and high interaction)

Knowledge Gained

- **Fundamentals of EHV transmission line design**
- **Awareness of construction and installation challenges**
- **Exposure to real-world power transmission practices**

Expert's Message

A rewarding session where we shared valuable insights on design and construction of extra high voltage transmission lines.

Dr. Engr. Rizwan Tariq

2nd Session

Understanding the Physical Meaning of Electrical Terminology

Eng. Amer Al-Zeer

Guest Speaker

17 September 2025

An educational scientific session aimed at clarifying the physical meaning of key electrical engineering terminology and linking theoretical concepts to practical power system applications.

Key Insights :

Scientific Session	1 h	122	Google Meet
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

Medium

(7 questions and moderate interaction)

Knowledge Gained

- **Clear understanding of reactive power and power factor**
- **Differentiation between linear and nonlinear loads**
- **Improved conceptual clarity of electrical engineering terms**

Expert's Message

With a distinguished hosting by IEEE KKU, we participated in a valuable webinar discussing the true and in-depth meanings of several electrical engineering concepts, and shared practical advice with engineering students across different disciplines and fields.

Eng. Amer Al-Zeer, Training Manager at Gulf Laboratory Company.

Saudi National Day

On the occasion of Saudi National Day... Inspiring Session with Saudi ISEF 2025 Winners

Guest Speakers

Hala Al-Shehri

Tamim Ibrahim

Fajr Al-Khalifi

25 September 2025

An inspirational session highlighting the experiences, challenges, and success stories of Saudi students who achieved international recognition at **ISEF 2025** Engagement Level was so high as you see:

Super

(37 questions and great interaction)

Key Insights :

Panel Discussion	1 h	1,166	X
Activity Type	Duration	Attendees	Delivery Platform

With a special hosting opportunity, I participated in a discussion space where I spoke about my experience at ISEF 2025, answered attendees' questions, and shared advice with young people interested in scientific researh.

- Hala Al-Shehri – ISEF 2025

My sincere thanks and appreciation to the IEEE Branch at King Khalid University for this distinguished hosting, in a forum that reflects our pride in the nation and its achievements. I ask Allah to grant them success and bless their continued efforts on the path toward excellence.

- Tamim Ibrahim – ISEF 2025

At the kind invitation of IEEE KKU, I participated in a discussion space about my experience at ISEF 2023, where I spoke about the most important lesson I learned: enter the experience with the intention to learn, not merely to win, as it is a genuine opportunity for growth and experience-building before being just a competition defined by its outcome.

- Fajr Al-Khalifi – ISEF 2023

4th Session

Power Up Your Future! with IEEE PES Resources

Eng. Ibrahim Al-Muhaisin

Guest Speaker

14 October 2025

An inspiring webinar presented by the Chair of IEEE Power & Energy Society (PES) – Saudi Arabia Chapter, highlighting how students can leverage IEEE PES resources to enhance their academic and professional journey, explore career opportunities.

Key Insights :

Webinar	1 h	35	Google Meet
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

Medium

(6 questions and moderate interaction)

Knowledge Gained

- **Introduce students to IEEE PES resources and how to effectively utilize them.**
- **Enhance students' technical and professional knowledge in power and energy systems.**
- **Support career development and engagement with the global IEEE community.**

Expert's Message

I was pleased today to participate with the IEEE Student Branch at King Khalid University and to witness their distinguished organization of a lecture on the importance of the IEEE Power & Energy Society (PES) and its role in empowering students and expanding their scientific, professional, and technical horizons in the energy sector.

Eng. Ibrahim Al-Muhaisin, Chair of the IEEE Power & Energy Society (PES) Saudi Arabia Chapter.

5th Session

Basics of Microcontrollers Using Arduino

Eng. Mishal Al-Mutrafi

Guest Speaker

25 October 2025

A hands-on workshop introducing Arduino and its core concepts, where participants applied the learned principles through the implementation of two practical projects during the session.

Key Insights :

Workshop	3 h	52	Google Meet
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

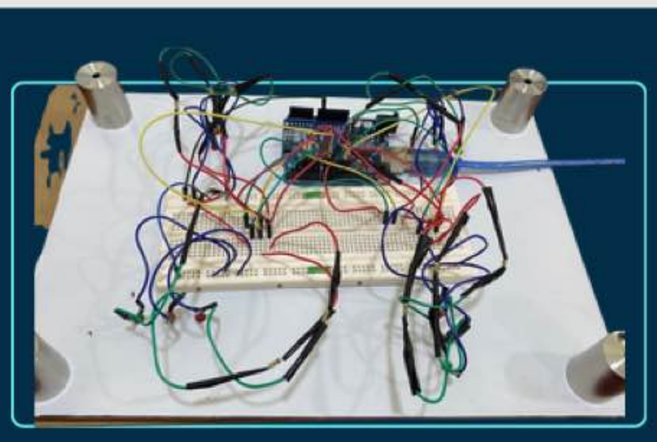
High

(13 questions and high interaction)

Knowledge Gained

- **Understanding of microcontroller architecture and operation**
- **Practical experience in Arduino programming and circuit interfacing**
- **Development of technical and hands-on skills applicable to real engineering projects**

The Workshop Outcomes



The workshop included the interactive, hands-on implementation of a traffic light project with the students, serving as a starting point for developing their skills and engaging in Arduino-based practical projects.

6th Session

Electrical Safety

Eng. Ayed Al-Hamran

Guest Speaker

11 November 2025

A scientific session focused on electrical safety, addressing common hazards, preventive measures, and best practices to ensure safe academic and practical environments.

Key Insights :

Scientific Session	1.5 h	72	Google Meet
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

Medium

(7 questions and moderate interaction)

Knowledge Gained

- **Awareness of electrical safety risks and preventive measures**
- **Understanding safety procedures and compliance with safety standards**
- **Overview of professional certifications and career pathways in the field of electrical safety**

Expert's Message

I was pleased today to participate with the IEEE Student Branch at King Khalid University in delivering a distinguished workshop, where we discussed the importance of safety in the quality of electrical projects, the supporting international standards, and their impact on empowering engineers and enhancing their professional competence in the energy sector.

Eng. Ayed Al-Humran, Safety Engineer and Certified Trainer, Master's Degree in Safety and Fire Prevention.

7th Session

Creating Research References Using Mendeley

Dr. Abdullah Shaher

Guest Speaker

16 November 2025

A hands-on workshop demonstrating effective reference management and citation techniques using Mendeley to support academic research and professional writing.

Key Insights :

Workshop	2 h	67	Google Meet
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

Medium

(9 questions and moderate interaction)

Knowledge Gained

- **Efficient organization and management of research references**
- **Proper in-text citation and reference formatting using IEEE style**
- **Introduction to academic writing support tools and research productivity skills**

Expert's Message

Today, I delivered a training workshop titled "Creating Research References Using Mendeley" for IEEE KKU, where we covered key tools for organizing research and properly citing references according to academic standards. It is always an honor to support students and researchers in their academic journey.

Dr. Abdullah Khalofah Mohammed Shaher, Academic and Researcher in Renewable Energy Sciences.

8th Session

Advances & Careers in Power and Energy Systems

Dr. Kazi N. Hasan

Guest Speaker

1 December 2025

A scientific session focusing on recent research advances in power and energy systems, highlighting current research trends, and introducing students to academic and professional pathways in the energy field.

Key Insights :

Scientific Session	2 h	37	بيت الثقافة
Activity Type	Duration	Attendees	Delivery Platform

Engagement Level:

High

(17 questions and high interaction)

Knowledge Gained

- **Awareness of current research trends in power and energy systems**
- **Understanding research opportunities and academic pathways**
- **Insight into future directions of energy-related research and technologies**

Expert's Message

I am delighted to be with IEEE KKU at a historic venue, where outstanding management, a well-attended and lively session, strong engagement, and great enthusiasm all came together to make this event truly memorable.

Dr. Kazi N. Hasan, Senior Lecturer at RMIT University, Chair of IEEE Power & Energy Society, Victorian Chapter, Australia.

Conferences & Exhibitions

AN ORIENTATION MEETING FOR NEW STUDENTS

THE STUDENT ENTITIES AND SCIENTIFIC SOCIETIES EXHIBITION

THE SUSTAINABLE ENERGY AND ENVIRONMENT SOLUTIONS CONFERENCE (SEESC 2025)

AN ORIENTATION MEETING FOR NEW STUDENTS

AN ORIENTATION MEETING FOR NEW STUDENTS, ORGANIZED BY THE COLLEGE OF ENGINEERING, WAS CONDUCTED WITH THE PARTICIPATION OF THE IEEE KKU STUDENT BRANCH TO INTRODUCE STUDENTS TO IEEE ACTIVITIES, OPPORTUNITIES, AND PATHWAYS FOR ACADEMIC, TECHNICAL, AND PROFESSIONAL DEVELOPMENT.

جامعة الملك خالد
KING KHALID UNIVERSITY
كلية الهندسة
College of Engineering

Orientation meeting for new students

9 September 2025

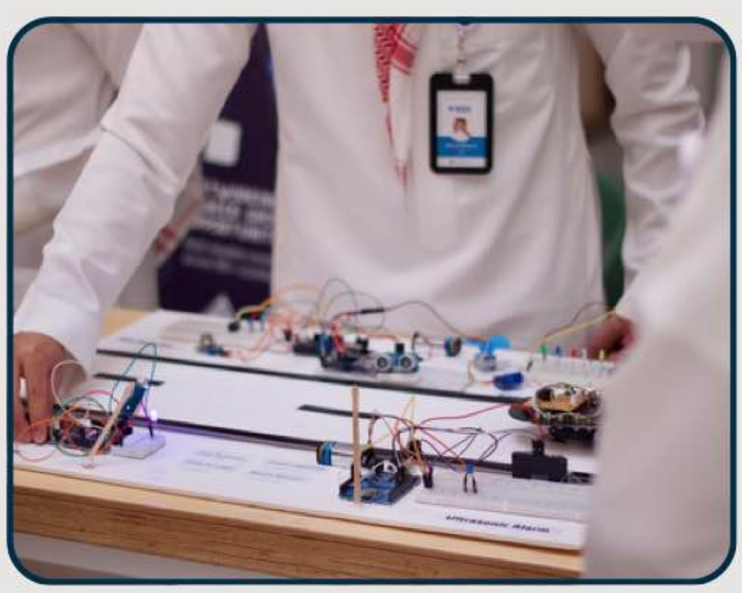
ARDUINO PROJECTS EXHIBITION

جامعة الملك خالد
KING KHALID UNIVERSITY
كلية الهندسة
College of Engineering

Arduino Projects Exhibition

AN ARDUINO PROJECTS EXHIBITION WAS ORGANIZED IN THE PRESENCE OF THE DEAN OF THE COLLEGE OF ENGINEERING, DR. SAEED AL-QADI, AND ATTRACTED STRONG ENGAGEMENT FROM A LARGE NUMBER OF VISITORS AND INTERESTED ATTENDEES. THE EXHIBITION FEATURED OUTSTANDING ARDUINO-BASED PROJECTS THAT DEMONSTRATED HIGH LEVELS OF CREATIVITY, TECHNICAL SKILL, AND PRACTICAL ENGINEERING APPLICATIONS DEVELOPED BY STUDENTS.

21 September 2025



SEESC 2025

THE IEEE KKU STUDENT BRANCH SHOWCASED THE OUTSTANDING PROJECTS OF THE INNOVATION UNIT AT ITS BOOTH DURING THE SUSTAINABLE ENERGY AND ENVIRONMENT SOLUTIONS CONFERENCE (SEESC 2025), A GLOBAL CONFERENCE THAT BROUGHT TOGETHER EXPERTS, RESEARCHERS, AND INDUSTRY PROFESSIONALS FROM AROUND THE WORLD.

THE BRANCH'S BOOTH RECEIVED EXCEPTIONAL ATTENTION AND WAS ONE OF THE MOST VISITED THROUGHOUT THE CONFERENCE, REFLECTING STRONG ENGAGEMENT AND INTEREST FROM ATTENDEES.

SEESC 2025

Sustainable Energy and Environment Solutions Conference

(SEESC 2025)

9 - 10 December 2025

Student Engagement and Sports Activities

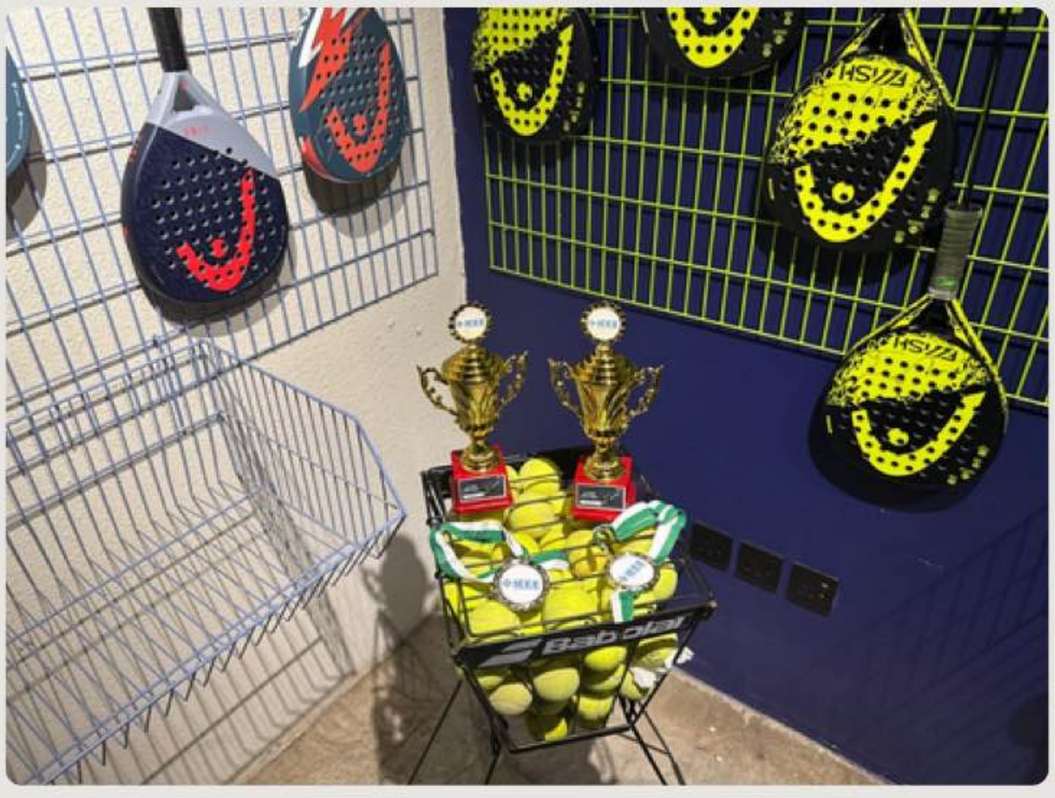
Padel Tournament

DRIVEN BY THE BRANCH'S COMMUNITY AND SPORTS ENGAGEMENT ROLE, A PADEL TOURNAMENT WAS ORGANIZED WITH THE PARTICIPATION OF STUDENTS FROM VARIOUS ENGINEERING DISCIPLINES, AIMING TO PROMOTE TEAMWORK, STRENGTHEN SOCIAL INTERACTION, AND ENHANCE STUDENT ENGAGEMENT WITHIN THE ENGINEERING COMMUNITY.

Key Statistics:

16	32	5	+74
TEAMS	PARTICIPANTS	ENG. DISCIPLINES	ATTENDEES

12 November 2025



Academic Enrichment

THE CONTENT TEAM FOCUSED ON ENHANCING ACADEMIC KNOWLEDGE BY PRODUCING WEEKLY TECHNICAL ARTICLES AND CURATED QUOTES FROM RENOWNED SCIENTISTS AND ENGINEERS IN ELECTRICAL ENGINEERING AND RELATED FIELDS. THESE INITIATIVES AIMED TO SIMPLIFY ENGINEERING CONCEPTS, PROMOTE RESEARCH CULTURE, AND ENCOURAGE CONTINUOUS ACADEMIC ENGAGEMENT, CONTRIBUTING TO HIGHER-QUALITY EDUCATIONAL CONTENT AND INFORMED STUDENT DEVELOPMENT.

Key Statistics:

12 ARTICLES

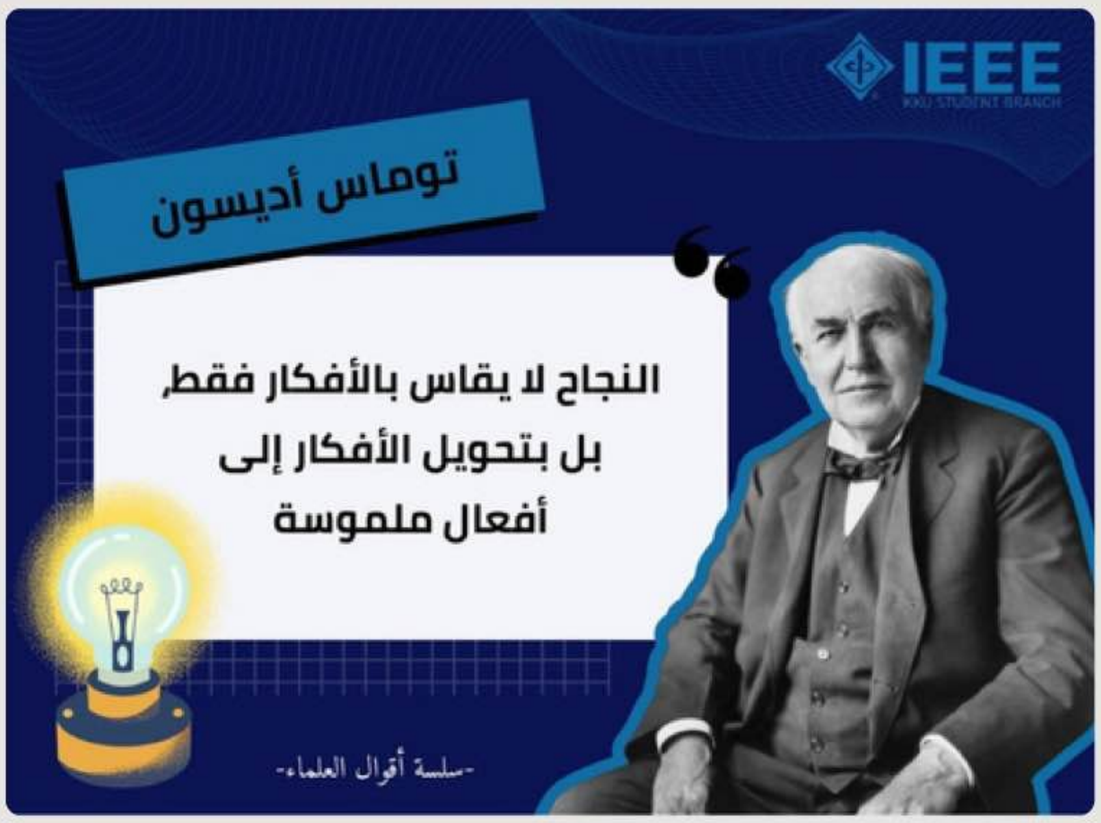
4 QUOTES

17 WRITERS

15 ENGINEERING TOPICS

Content Team

SAMPLE CONTENT
ILLUSTRATIVE EXAMPLES OF A WEEKLY ACADEMIC ARTICLE AND A FEATURED SCIENTIFIC QUOTE, HIGHLIGHTING THE CONTENT TEAM'S EFFORTS IN ENRICHING EDUCATIONAL AND RESEARCH-ORIENTED MATERIAL.



ENGAGEMENT RATE – X

268.6K

+1.7K %

IMPRESSIONS

72

POSTS

1.5k

+960 %

LIKES

274

+1.5K %

REPOSTS

+1,098

+98 %

NEW FOLLOWERS

The IEEE KKU Student Branch recorded an unprecedented increase in engagement on X, achieving significant growth in reach, interaction, and follower count, reflecting strong audience interest and effective digital presence.

ENGAGEMENT RATE – LINKEDIN

57.3K

+739 %

IMPRESSIONS

60

POSTS

947

+893 %

REACTIONS

104

+703 %

REPOSTS

+406

+182.6 %

NEW FOLLOWERS

The IEEE KKU Student Branch experienced remarkable growth on LinkedIn, achieving a substantial increase in reach and engagement. This significant growth reflects strong professional visibility, effective content delivery, and increased interest from the academic and engineering community.

ENGAGEMENT RATE – TIK TOK

17,938

+5.4K %

IMPRESSIONS

7

POSTS

816

+960 %

LIKES

97

+1.5K %

BOOK MARKS

+142

+98 %

NEW FOLLOWERS

The IEEE KKU Student Branch achieved strong and rapid growth on TikTok, recording a significant increase in views, engagement, and follower count. This growth reflects effective content strategy, increased visibility, and rising audience interest in the branch's activities and initiatives.

Impact and Outcomes

The activities organized by the IEEE KKU Student Branch had a positive impact on students' academic, technical, and professional development. Through hands-on projects, engineering field visits, and interactive events, students gained practical exposure that supported the application of theoretical knowledge in real-world contexts.

The branch's initiatives contributed to enhancing technical skills, increasing industry awareness, strengthening teamwork and leadership abilities, and promoting active student engagement. Overall, these outcomes reinforced the role of the IEEE KKU Student Branch as an effective platform for student development, innovation, and professional growth.

IEEE

Advancing Technology for Humanity

Challenges and Lessons Learned

Throughout the execution of activities, the IEEE KKU Student Branch encountered several organizational and logistical challenges, including time constraints, coordination with external partners, and managing multiple events within a limited timeframe. These challenges required effective planning, clear communication, and flexibility from the organizing teams.

Key lessons learned include the importance of early coordination with partners, clear task distribution among teams, and contingency planning to ensure smooth event execution. These insights will contribute to improving future planning, enhancing efficiency, and strengthening the overall performance of the branch.

Recommendations and Future Directions

Based on the experiences and outcomes of the activities, several recommendations are proposed to support the continued growth and effectiveness of the IEEE KKU Student Branch. These include expanding technical workshops, increasing industry-focused activities, and further strengthening innovation-driven projects to enhance students' practical skills.

Future directions may also include developing additional strategic partnerships, increasing interdisciplinary collaboration, and enhancing documentation and media coverage. These steps aim to sustain impact, improve activity quality, and support the long-term development of students and the branch.

Acknowledgment

The IEEE KKU Student Branch extends its sincere appreciation to **King Khalid University** for its continuous support and encouragement of student activities. Special thanks are extended to the **College of Engineering**, and in particular to **Dr. Saeed Alqadhi**, Dean of the College of Engineering, for his continuous support, leadership, and commitment to empowering student initiatives. The branch also expresses its appreciation to the **Electrical Engineering Department** for its guidance and cooperation.

The branch further conveys its deep gratitude to **Dr. Mohammed Al-Ammar**, Head of the Electrical Engineering Department, for his continuous support, and to **Dr. Hadi Al-Hakami**, IEEE Advisor, for his valuable guidance and supervision. Special appreciation is also extended to **Dr. Muhannad Al-Harfash**, Head of the Student Activities Unit at the College of Engineering, for his ongoing support and facilitation of activities.

Finally, sincere thanks are extended to all **IEEE KKU members and volunteers** for their dedication, teamwork, and commitment to delivering impactful and high-quality initiatives.

Thank You

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