Texas Instruments in collaboration with ECE Department of ACET has established the TEXAS INSTRUMENTS LAB. It has the potential to completely transform teaching, research, and development activities through its world class trainer kits, launch pad, and processor.

Texas Instruments specializes in embedded processors and analog chips, which are essential components of electronic gadgets worldwide. They also manufacture products related to education technology and TI DLP® technology. With over 43,000 patents globally, Texas Instruments is a leading semiconductor firm, ranking among the top 10 in sales volume.

Through this collaboration, ACET aims to provide students with practical experience and research opportunities, aligning with Texas Instrument's commitment to technological innovation and advancement.

List of Major Equipment's:

- ASLK PRO Kit
- MSP 430 EXP G2 Launch Pad
- Wi-Fi® CC3100 Booster Pack
- STEPS Experimenter Pack for MSP 430
- C2000 Piccolo LAUNCHXL-F28027
- BOOSTERPACK, DRV8301
- STEPS Experimenter Pack for C2000
- TIVA Launch pad EK-TM4C123GXL
- Sensor Hub Booster Pack for Tiva™ C
- STEPS Experimenter Pack for TIVA
- CC3200 Simple Link Wi-Fi Launch Pad
- RSLK - BASIC

Akshaya- iHUB Robotics

ABOUT CoE

The Centre of Excellence (CoE) in Robotics and AI at Akshaya College of Engineering & Technology, established in 2025 under the Department of Mechatronics Engineering, serves as a hub for cutting-edge research, innovation, education and collaboration in the dynamic field of robotics and AI. Supported by iHub Robotics, the CoE brings together experts from multiple engineering disciplines to advance the state-of-the-art in robotics technology. The iHub Robotics is at the forefront of developing AI-driven robotic solutions that revolutionize industries and empower human potential through innovative technology.

The center fosters an environment that encourages interdisciplinary teamwork, innovation, and industry engagement. Through strategic partnerships with academia and industry, it promotes the transfer of technology and commercialization of research outcomes. The CoE also offers a range of educational programs for students and professionals, while engaging with the wider community to raise awareness and cultivate interest in robotics and automation.

Vision

- To become a globally recognized Center of Excellence in Robotics, advancing innovation, research, and education to shape the future and improve lives through intelligent automation.

Mission

- To establish a center that promotes interdisciplinary collaboration, cutting-edge research, and transformative education in robotics.
- To build strategic partnerships with industry, academia, and government agencies to leverage resources, expertise, and networks for advancing robotics.
- To develop educational programs that empower students with the knowledge, skills, and mindset required to thrive in the robotics field.

Centre of Excellence (Robotics and AI)

Objectives:

- Promote collaboration among experts in engineering, AI, computer science, materials science, and human-computer interaction to solve complex robotics challenges.
- Advance robotic systems, sensors, actuators, and algorithms for precise, efficient, and adaptable task performance.
- Offer high-quality education and training to students, professionals, and the community, shaping the next generation of robotics and fostering public engagement.
- Conduct pioneering research to explore and develop innovative robotics technologies.

Activities:

- Collaborating with industry, and academia to drive innovation, share resources, and enhance R&D efforts.
- Conducting hands-on workshops focused on real-world robotics applications, including system design, AI integration, and programming.
- Offering specialized courses and certifications in robotics and AI to equip students and professionals with advanced skills.
- Encouraging faculty and researchers to publish groundbreaking research in top-tier journals, advancing robotics knowledge.

Incharges:

1. Academics Coordinator : Mr. R. Gokul Raju, AP/Mechatronics
2. Industry Coordinator : Mr. A. Suthaneshwaran, iHUB Robotics

CISCO Networking Academy

Akshaya college of Engineering and Technology has partnered with CISCO, the world leaders in networking to establish the Networking Academy (NetAcad). The vision of the CoE is to enable the institution as a networking hub in the emerging technologies. CCNA (Cisco Certified Network Associate) is designed to improve, enhance and evaluate the networking knowledge of an individual. The purpose of CCNA is to enable students and academic professionals to a higher level by transforming them 360 degrees in the area of networking

Cisco Networking Academy is Cisco's flagship social investment program, an internationally recognized IT skills and career-building initiative designed for educational institutions. For over 25 years, this program has significantly impacted global education, empowering more than 17.5 million students in 190 countries by equipping them with in-demand technology skills. Through this program, students gain valuable pathways to Cisco's hiring and virtual internship opportunities.

Objectives:

- **Skill Development and Employability:** To empower students with globally recognized skills that align with current and future industry demands.
- **Industry-Academia Collaboration:** To strengthen partnerships with Cisco and other industry leaders, ensuring access to the latest tools, technologies, and best practices.

The Cisco Networking Academy CoE Program offers numerous benefits and highlights:

- **Flexible Learning:** A cloud-based Learning Management System (LMS) allows students to learn anywhere, anytime, promoting accessibility and self-paced study.
- **Comprehensive Curriculum:** Offers ICT-based skill development across a wide range of technologies, including Networking, Cybersecurity, Programming, Infrastructure Automation, and IoT.

- **Practical Experience:** Features online assessments, hands-on lab activities, and real-world projects to reinforce learning.
- **Lifetime Access:** Provides students with a lifetime free learning license to program content and instructors with a lifetime teaching license.
- **Industry Engagement:** Students gain access to exclusive industry sessions, webinars, and virtual workshops featuring experts.

Available Equipment:

Router Cisco

CISCO 2911 ROUTER	- 3 NOS
HWIC 2T	- 6 NOS
WAN smart serial cable	- 3 Nos

Switch Cisco

Cisco 2900 plus switch 24 port	-2 Nos
Console cable	- 2 Nos

Coordinator:

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ACET PRAYA XR Hub – Centre of Excellence

About the Centre of Excellence (CoE)

The **ACET PRAYA XR Hub – Centre of Excellence** is established to promote advanced learning, research, and innovation in extended reality technologies such as **Virtual Reality (VR)** and **Extended Reality (XR)**. The centre provides students with hands-on exposure to modern tools and technologies used in virtual application development, including **3D environment design, interactive simulations, and real-time visualization**.

The XR Hub enables students to design and develop realistic virtual environments such as **buildings, classrooms, laboratories, and interactive learning spaces**. Through structured training and practical sessions, students gain knowledge in **3D modeling, texturing, lighting, rendering, and scene optimization**, which are essential for creating high-quality virtual experiences.

The centre is equipped with **standalone VR headsets, motion-tracked controllers, and high-performance computer systems with dedicated graphics capabilities**. These facilities allow students to explore **360-degree immersive environments**, interact with virtual objects, and understand concepts such as **spatial tracking, gesture recognition, interactive navigation, and human–computer interaction**.

The **ACET PRAYA XR Hub – Centre of Excellence** aims to bridge the gap between **academic knowledge and industry requirements** in emerging technologies by encouraging **experiential learning, creativity, and innovation**.

Vision

To become a leading centre for **immersive technology education and innovation**, empowering students with advanced knowledge and practical skills in **Virtual Reality, Extended Reality, and Spatial Computing** to meet future industry demands.

Mission

1. To provide **hands-on training** in spatial technologies including **VR/XR and 3D environment design**.
2. To develop **student competencies in interactive application development and real-time visualization**.
3. To connect **academic learning with industry practices** in emerging extended reality technologies.

Objectives

1. To train students in **3D modelling, interactive visualization, and XR application development**.
2. To provide practical exposure to **VR hardware, spatial interaction, and virtual system design**.
3. To enable students to build **virtual simulations, educational modules, and immersive applications**.

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