TRACKS

- FPGA (₹ 15,000)
- RASPBERRY PI / RENESAS KIT (₹ 10,000)
- ESP/ARDUINO (₹ 5,000)

PRIZE POOL UPTO ₹ 30,000

Eligibility:

- **B.Tech/ M.Tech/ PhD students**
- **Team Size: 3–5 members.**
- **Only intra-college teams are allowed (inter-college teams are not permitted).**
- **A team may contain members of any degree**

KEY FOCUS AREAS

01 **Hardware-Centric Innovation**
FPGA, Raspberry Pi & Microcontroller-based solutions.

02 **Optimized Hardware Design**
Low power, low latency, and efficient resource utilization.

03 **Real-Time Performance**
Fast, reliable, and scalable hardware implementation.

04 **Edge AI & Embedded Systems**
Intelligent on-device computing with real-time processing.

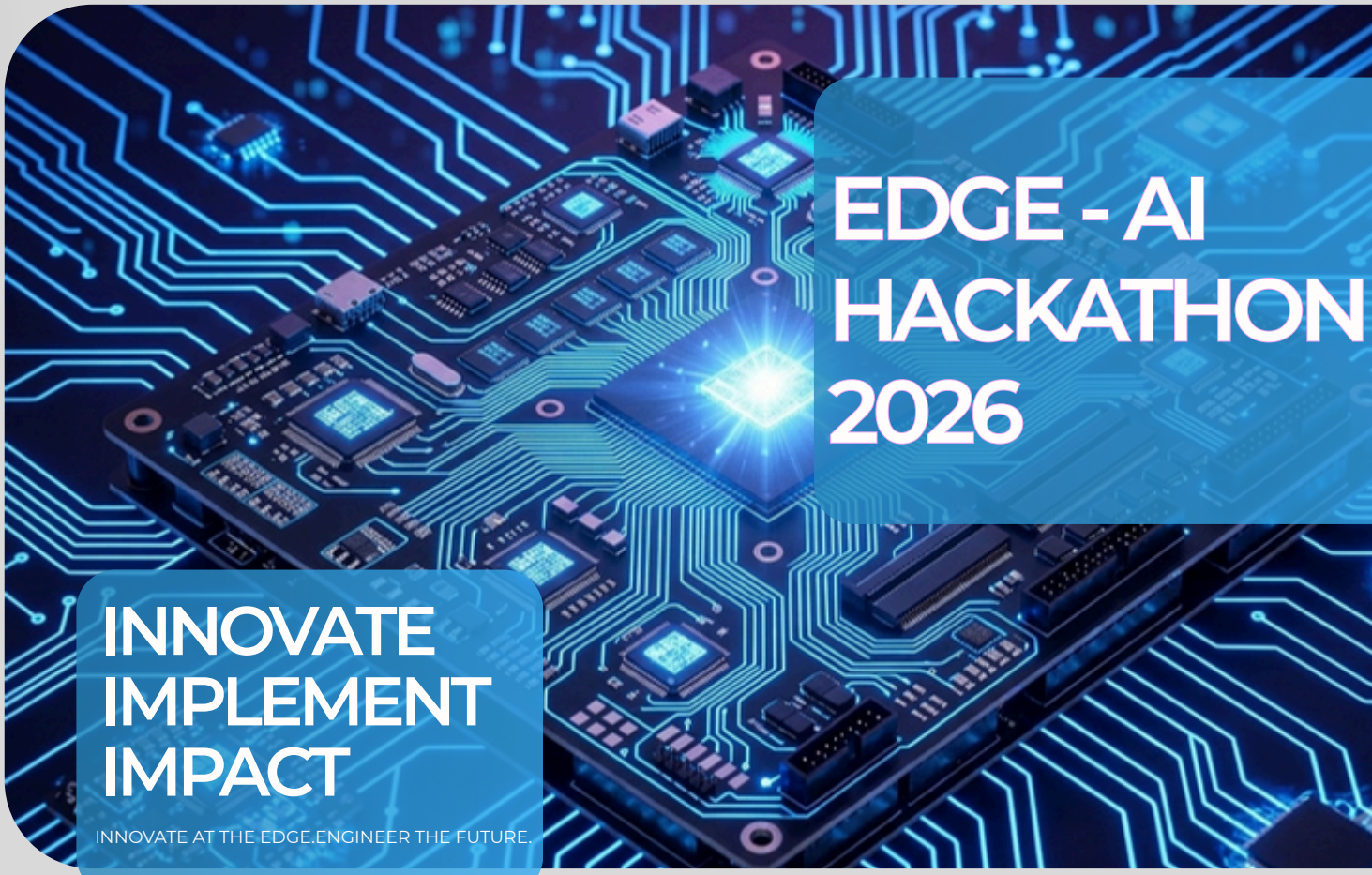
CEDA® IEEE Council on Electronic Design Automation

IEEE Advancing Technology for Humanity

BPUT, ODISHA ESTD-2009

Electron Devices Society

Chips to Startup Programme



EDGE - AI HACKATHON 2026

INNOVATE IMPLEMENT IMPACT

INNOVATE AT THE EDGE.ENGINEER THE FUTURE.

TIME LINE

Round 0 (Abstract Submission)
AUGUST 15, 2026

Round 0 (Result Announcement)
SEPTEMBER 18 ,2026

Round 1 (Software Simulation)
SEPTEMBER 18 - OCTOBER 04, 2026

Round 2 (Hardware Implementation)
OCTOBER 04 - OCTOBER 06, 2026 (On site)

ORGANISATION & SPONSORSHIP

IEEE EDS STUDENT CHAPTER, PMEC
IEEE STUDENT BRANCH, PMEC

IEEE BHUBANESWAR SECTION

TECHNICAL SPONSOR -

MICROCHIP RENESAS

ETIOS ESTD 2020

Parala Maharaja Engineering College, Brahmapur

APPLICATION DOMAINS

Communication Systems

Design intelligent and efficient solutions for wireless communication, networking, signal transmission, and IoT connectivity.

Biomedical Engineering

Develop embedded systems for healthcare applications, including patient monitoring, medical imaging, and wearable devices.

Image & Signal Processing

Implement real-time algorithms for image enhancement, object detection, audio analysis, and sensor data processing.

Processors

Develop optimized processor architectures, digital systems, and embedded hardware with a focus on performance, power efficiency, and real-time execution.

Defence & Security

Build reliable hardware solutions for surveillance, secure communication, navigation, and threat detection.

Indian Knowledge System

Develop AI-powered solutions for preserving, enhancing, and delivering valuable knowledge through intelligent digital platforms and embedded systems.

ABOUT THE HACKATHON

ROUND 0 (ONLINE)

Teams must submit an abstract outlining their proposed solution, innovation, methodology, workflow, expected outcomes, and the hardware/software tools to be used. Submissions will be evaluated for innovation, technical feasibility, implementation approach, and real-world impact. The abstract submission link will be provided below.

ROUND 1 (ONLINE)

Teams will develop and validate their proposed solution using appropriate software tools such as Vivado, MATLAB, Python, C/C++, or simulation platforms. Round 1 will be conducted in online mode.

ROUND 2 (ON-SITE)

DAY- 01

Qualified teams will implement their solutions on the designated hardware platform (FPGA, Raspberry Pi, or Microcontroller) and demonstrate real-time functionality. Mentors and judges will evaluate hardware design, system optimization, and overall performance.

DAY- 02

Teams will present their complete solution through a live demonstration and technical presentation, followed by a Q&A session with the judging panel. Winners will be selected based on innovation, technical excellence, hardware implementation, and real-world impact, followed by the prize distribution ceremony.

EVALUATION CRITERIA

Innovation & Technical Excellence – Originality, creativity, and technical depth of the solution.

Implementation & Performance – Functionality, design quality, feasibility, and execution of the prototype.

Presentation & Impact – Clarity of presentation, demonstration, scalability, and real-world applicability.

Team & Registration :

Team Size:

- **3 - 5 members per team.**

Registration Fee:

- **₹1200 per participant. (This fee includes accommodation and fooding charges).**
- **No TA/DA will be provided.**

Registration:

- **Complete the online registration using the link available in the link Tree**

RULES & GUIDELINES

- All project ideas, designs, and implementations must be original. Plagiarism or copied work will result in immediate disqualification.
- Each team must select one problem statement from the official list (6 domains × 5 problem statements) available via the Linktree.
- Round 0 (Abstract Submission) is mandatory. Abstracts must be submitted only in the prescribed template provided in the Linktree.
- Teams must submit their registration and abstract through the respective links provided in the Linktree.
- Development boards (FPGA, Raspberry Pi, ESP32 etc.) except Arduino will be provided by the organizers. The list of supported boards will be shared in advance.
- Teams must bring their own sensors, actuators, modules, and other required peripherals for project implementation.
- The decision of the judges and organizing committee shall be final and binding.

AVAILABLE DEVELOPMENT BOARDS

Available Development Boards :

- PYNQ-Z2
- Basys 3
- Arty A7-100T
- Kria KR260
- Kria KV260 (Vision AI Starter Kit)
- Zynq UltraScale+ MPSoC ZCU104
- Raspberry Pi 5
- Raspberry Pi I/O Board
- Urbana Board
- Boolean Board
- Renesas QuickConnect Beginners Kit V2.0
- Renesas EK-RA6M5 Evaluation Kit
- Renesas EK-RA8D1 Evaluation Kit
- ESP32

Available PMOD Modules :

- PMOD KYPD (16-Button Keypad)
- PMOD OLEDRGB (96 × 64 RGB OLED Display)
- PMOD DA2 (Dual 12-bit DAC)
- PMOD TPH2 (12-Pin Test Point Header)

LINK TREE

ABSTRACT FORMAT

EDGE-AI_ABSTRACT_FORMAT

ABSTRACT SUBMISSION FORM

Google form

REGISTRATION FRORM

Google form

WEBSITE FOR MORE INFORMATION

WEBSITE

CONTACT INFO.

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