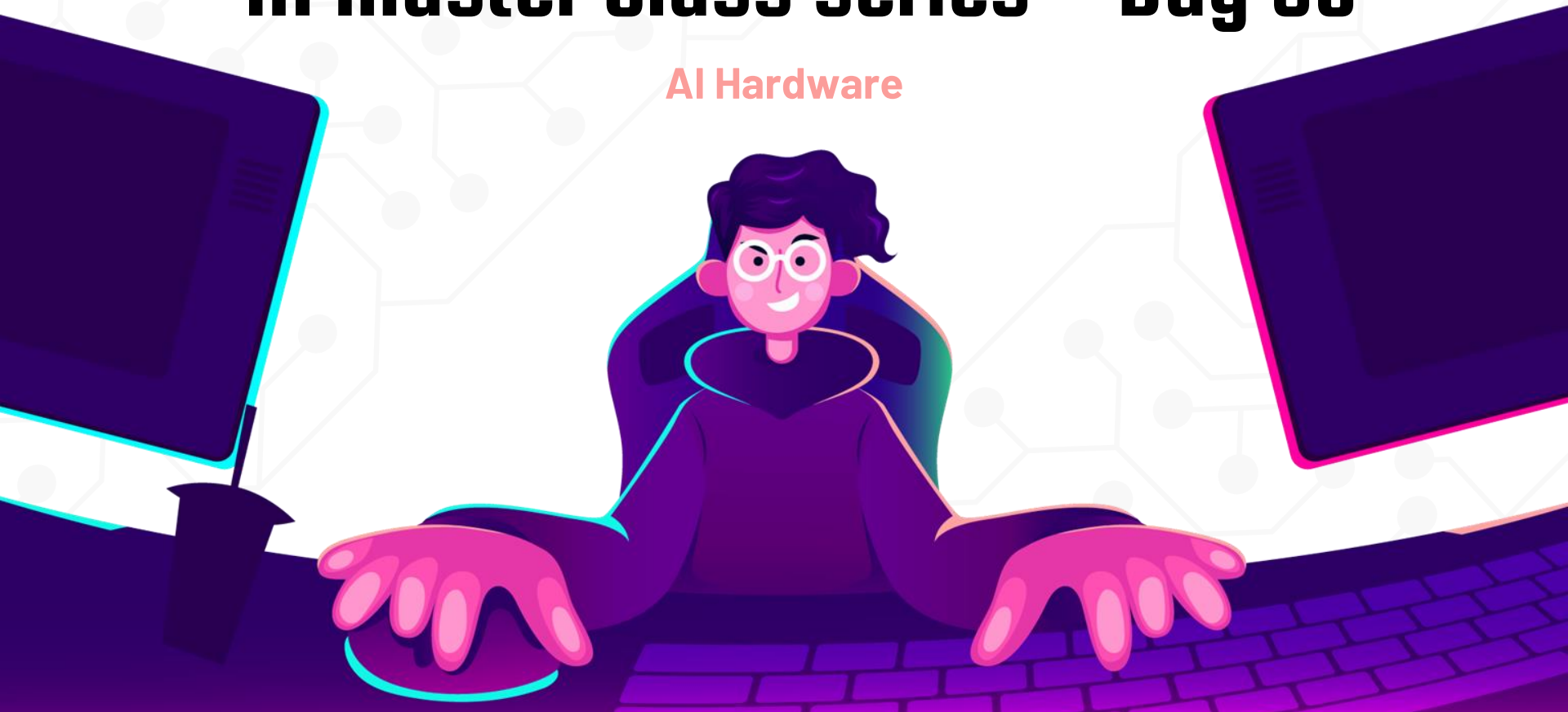
PANTECH SOLUTIONS®
Technology Beyond the Dreams

AI Master Class series – Day 30

AI Hardware



Announcement

Attendance link will be available around

4:30 PM.

SEND VIDEO TESTIMONIAL

Send ur Video Testimonial to the +91 9003113840
Link in Description

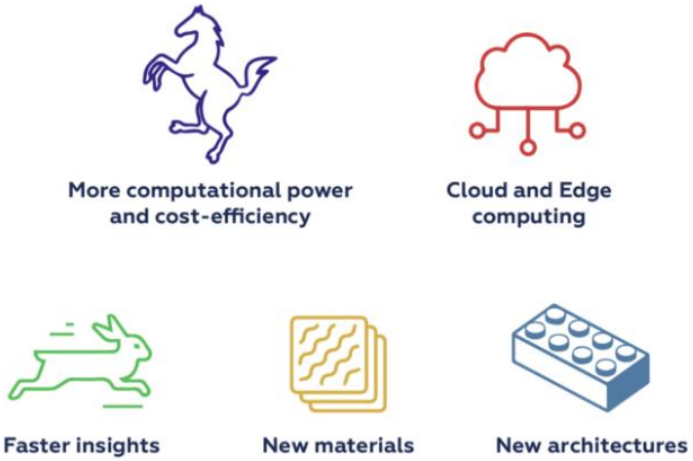
Video Testimonial – Video Feedback

AI Hardware

AI accelerators are a class of microprocessors, or microchips, designed to enable faster processing of AI applications, especially in machine learning, neural networks and computer vision.

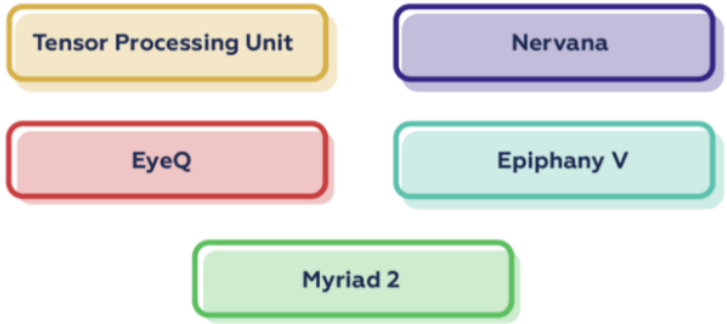
They are usually designed as many core and focus on low-precision arithmetic, novel dataflow architectures or in-memory computing capability.

- CPU – Central Processing Units
- GPU – Graphics Processing Units
- FPGA – Field Programmable Gate Arrays
- ASIC – Application Specific Integrated Circuits



Popular AI Hardware Solutions

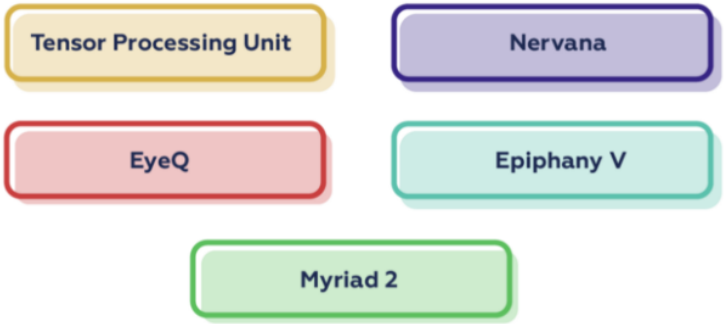
- **TPU –** AI accelerator application-specific integrated circuit (ASIC) developed by Google specifically for neural network machine learning which features a cloud solution.
- **Nervana –** Neural Network Processor-I 1000 is a discrete accelerator produced by Intel that is designed specifically for the growing complexity and scale of inference application.
- **EyeQ** – it is of a family of system-on-chip (SoC) devices that are designed by Mobileye to support complex and computationally intense vision processing, maintaining low power consumption even while located on the windshield.



Popular AI Hardware Solutions

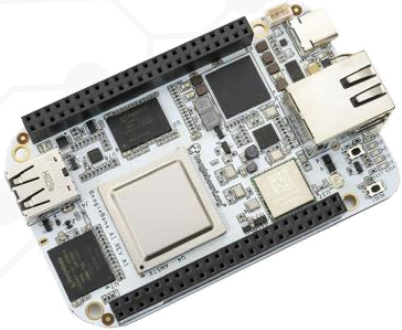
- **Epiphany V** – It is a 1,024-core processor chip by Adapteva aimed at real-time image processing, autonomous driving, and machine learning.

- **Myriad 2 –** is a vision processor unit (VPU) system-on-a-chip (SoC) by Movidus comprises a set of programmable processors and a set of dedicated and configurable image and vision accelerators to power computational cameras.

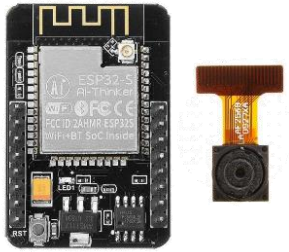


Dev. Boards for AI

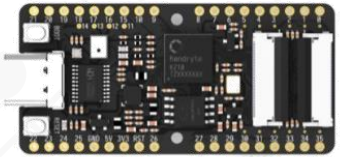
NVidia Jetson Nano – RS: 14,000



BeagleBone AI Fast Track– RS: 10,000



Ai Thinker ESP32– RS: 842



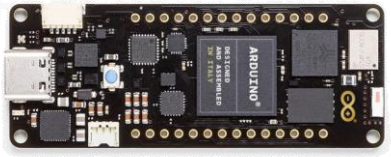
Sipeed MAix BiT for RISC-V– RS: 2000

Coral Dev Board– RS: 16000

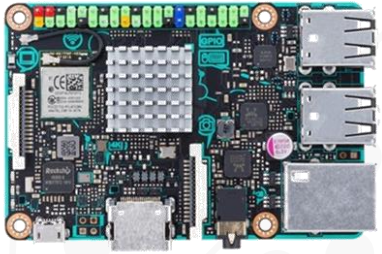
Raspberry Pi 4– RS: 3000

Dev. Boards for AI

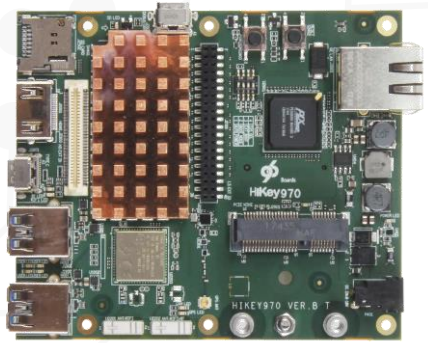
Neual Compute Stick– RS: 10,000



Arduino Portenta H7– RS: 10,500



Asus Tinker Board– RS: 5,500



HIKEY 970 development Bords– RS: 22,500

Best Performance / Wattage: Coral DevBoard

Best Flexibility: Jetson Nano

Cheapest: Sipeed MAIX GO

Best Support: Raspberry Pi 4

Alternative for Raspberry Pi 4: ROCK Pi 4 Model B

! PRACTICAL SESSION !

What u learnt.

ARTIFICIAL INTELLIGENCE
Overview of this course | Introduction to AI | How to create basic AI application (Chat bot using DialogFlow)
How to install Python & Libraries | Basics of python Programming for AI.

COMPUTER VISION
Introduction to Computer Vision| How to install computer vision libraries
Moving Object Detection and tracking using OpenCV
Face Detection and Tracking using OpenCV
Object Tracking based on colour using OpenCV
Face Recognition using OpenCV
Face Emotion recognition using 68-Landmark Predictor OpenCV

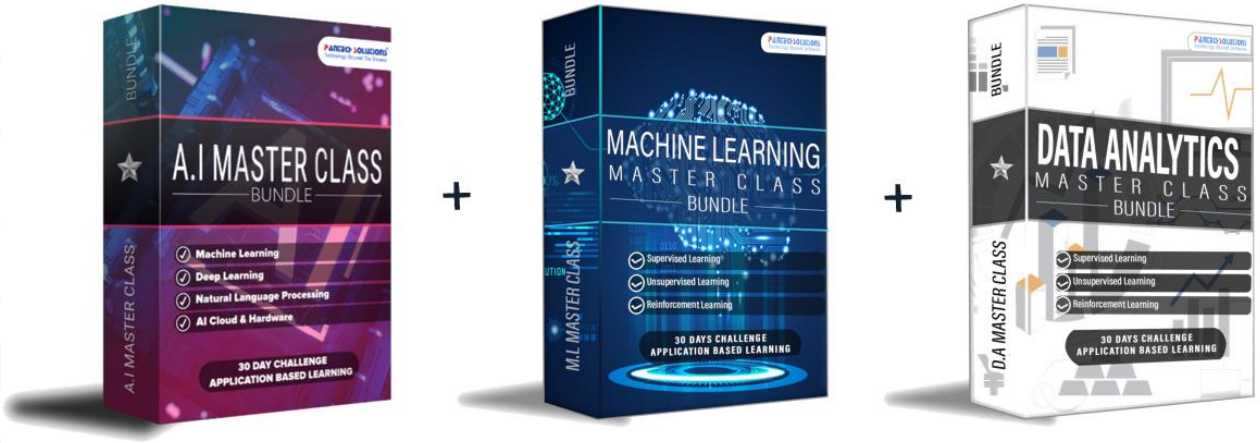
MACHINE LEARNING
Introduction to Machine learning| How to install ML libraries
Evaluating and Deploying the various ML model
Fake news detection using ML
AI snake game design using ML

DEEP LEARNING
Introduction to Deep learning | How to install DL libraries
Designing your First Neural Network
Object recognition from Pre-trained model
Image classification using Convolutional Neural Network
Hand gesture recognition using Deep Learning
Leaf disease detection using Deep Learning
Character recognition using Convolutional Neural Network
Label reading using Optical Character recognition
Smart Attendance system using Deep Learning
Vehicle detection using Deep Learning
License plate recognition using Deep Learning
Drowsiness detection using Deep Learning
Road sign recognition using Deep Learning

DEPLOYING AI IN HARDWARE	
	Cloud-based AI, Object recognition using Amazon Web Service (AWS) & Imagga
	Deploying AI application in Raspberry Pi with Neural Compute stick & Nvidia Jetson Nano

NATURAL LANGUAGE PROCESSING
Introduction to NLP & it's Terminology | How to install NLP Libraries NLTK
Title Formation from the paragraph design using NLP
Speech emotion analysis using NLP

3 Combo Course



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Q & A session

Thanks!

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