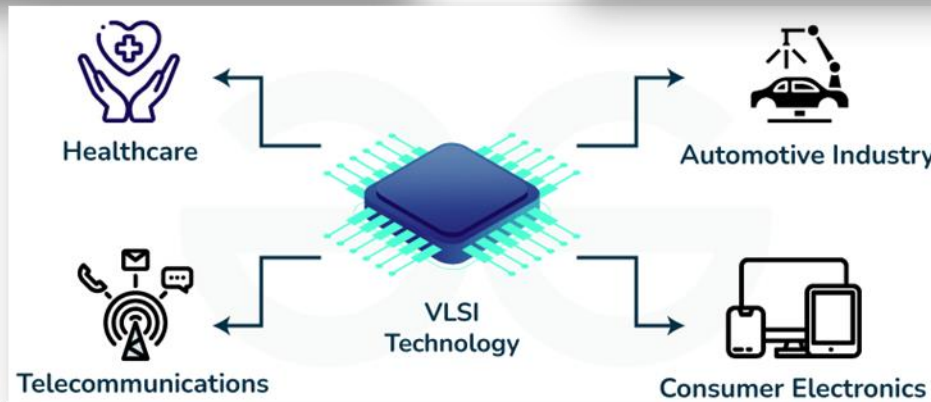


**National Institute of Electronics & Information Technology (NIELIT), Shillong is conducting six-week internship program on IoT, AI and VLSI in collaboration with **NIT Meghalaya****



**Conducted by:**

**National Institute of Electronics &  
Information Technology (NIELIT) Shillong**

## ABOUT INTERNSHIP PROGRAM

NIELIT Shillong is offering an internship program in Internet of Things (IoT), Artificial Intelligence (AI), and Very Large-Scale Integration (VLSI). This internship program commences with fundamental concepts.

After gaining knowledge on any of this topic (Internet of Things (IoT) or Artificial Intelligence (AI) or Very Large-Scale Integration (VLSI)), you'll be equipped to understand and contribute to cutting-edge projects that integrate these technologies.

Overall, your expertise in IoT or AI, or VLSI will position you as a valuable contributor to projects at the forefront of technological innovation, enabling you to drive advancements in diverse fields such as smart infrastructure, healthcare, automotive systems, and beyond.

## AIM

The aim of providing training on Internet of Things (IoT)/Artificial Intelligence (AI)/ Very Large-Scale Integration (VLSI) is to equip individuals with the knowledge, skills, and capabilities needed to excel in the rapidly evolving landscape of technology and innovation.



# INTERNSHIP PROGRAM ON IoT



## Key Competencies You'll Develop:

In the vast landscape of the Internet of Things (IoT), you'll acquire a multitude of key competencies that are essential for navigating and thriving in this evolving field. By honing these competencies, you'll be well-equipped to tackle the challenges and harness the opportunities presented by the Internet of Things.

## Topics on IoT

- Introduction to IoT
- Introduction Embedded System
- Overview of basic electronics and digital electronics
- Getting Started with Arduino
- Introduction to Programming Languages
- Introduction to Sensors, Actuators
- Introduction to Thing Speak
- LIVE Projects using Arduino Uno and ESP-32

Along With Mini Project

## Shape Tomorrow with Internet of Things (IoT)

IoT has the potential to revolutionize how we live, work, and interact with the world around us by creating interconnected ecosystems of devices that can improve efficiency, productivity, convenience, and sustainability. However, it also presents challenges related to security, privacy, interoperability, and data management that need to be addressed to ensure the responsible and ethical deployment of IoT solutions.

## Upon successful completion of this course candidate will able to:

Students will be equipped with the knowledge and skills needed to design, develop, and deploy IoT solutions, making them valuable assets in the rapidly evolving field of connected devices and smart systems.



# INTERNSHIP PROGRAM ON AI



## Key Competencies You'll Develop:

Studying or working with Artificial Intelligence (AI) fosters the development of several key competencies essential for success in this field. These competencies enable individuals to pursue diverse career paths in AI, including AI research, data science, and machine learning engineering, AI software development, AI consulting, and AI strategy and implementation.

## Topics on AI

- ➔ Data Science and Programming Tools
- ➔ Machine Learning
- ➔ Deep Learning and Natural Language Processing

Along With Mini Project

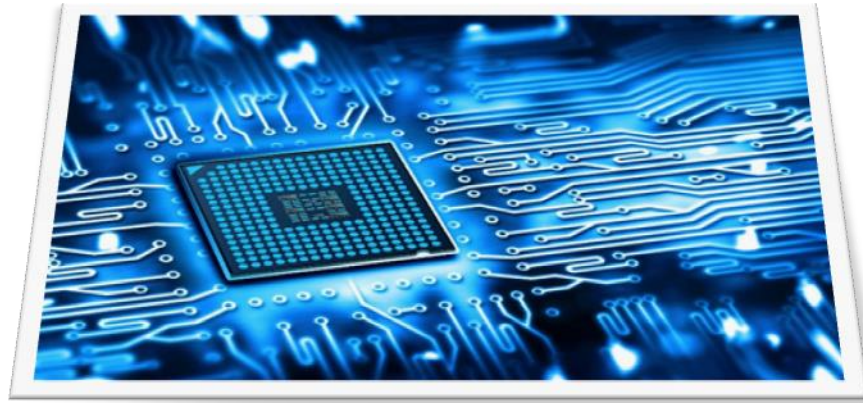
## Shape Tomorrow with AI (Artificial Intelligence)

Artificial Intelligence (AI) is a branch of computer science that aims to create systems capable of performing tasks that typically require human intelligence. These tasks include learning, reasoning, problem-solving, perception, understanding natural language, and interacting with the environment. AI systems are designed to mimic cognitive functions such as learning from experience, adapting to new situations, and making decisions based on available information.

## Upon successful completion of this course candidate will able to:

1. Capable of crafting and executing diverse AI/ML/DL algorithms across a spectrum of real-world applications.
2. Students will gain the ability to comprehend and execute the advantages and limitations of numerous prevalent AI/ML/DL algorithms.
3. Students will be expected to demonstrate a string grasp of the fundamental issues and challenges inherent in data science, machine learning and deep learning.
4. Gain an understanding and appreciation for the fundamental mathematical relationships present within and between Machine Learning algorithms as well as the paradigms of supervised and unsupervised learning.

# INTERNSHIP PROGRAM ON VLSI



## Key Competencies You'll Develop

Working with Very Large Scale Integration (VLSI) involves mastering several key competencies. By developing these competencies, individuals can pursue careers in VLSI design, semiconductor engineering, chip manufacturing, EDA tool development, and related fields, contributing to the advancement of electronic devices and systems.

## Topics on VLSI

- Basics of Digital VLSI Technology
- Hardware Modeling Using Verilog
- Combinational Circuit Basics
- Sequential Circuit Basics
- RTL Design Flow
- Library Modules in Verilog Design
- Digital Signal Processing in Verilog

Along With Mini Project

## Shape Tomorrow with VLSI (Very Large-Scale Integration)

Shaping tomorrow with VLSI (Very Large-Scale Integration) involves leveraging the advancements in semiconductor technology to create innovative solutions that address emerging challenges and improve various aspects of society. It represents a significant advancement in the field of electronics, enabling the creation of complex and powerful electronic systems in a compact and efficient form.

## Upon successful completion of this course candidate will able to:

The internees would be given hands on training on VLSI Digital Design using the Verilog language on the Intel Altera Quartus Platform. Students completing the internship are expected to be ready for VLSI Design, RTL Design, FPGA Engineer Jobs etc.

## ESSENTIAL DETAILS

**Registration** : Offline registration at NIELIT Shillong  
from 30th April'24 to 10th May'24

**Course Start Date** : 3rd June'24

**Course Duration** : 6 Weeks

**No of Seats** : 30 nos

**Lecture** : 1.5 hrs.

**Lab** : 2.5 hrs.

**Eligibility** : B.E/B.Tech/M.C.A/B.C.A Passed or Pursuing

## FOR COMMUNICATION

 **Ph no.0364- 2520177**

 [vidhya@nielit.gov.in](mailto:vidhya@nielit.gov.in)/[shillong@nielit.gov.in](mailto:shillong@nielit.gov.in)