

NIELIT Virtual Academy

INTERNSHIP PROSPECTUS

Name of the Internship: *Internship in 'IoT Data Analysis'[for VIT Chennai Students Only]*

Mode of Conduction: *offline at NIELIT Chennai*

Starting Date: *3rd June 2026*

Last date of registration: *2nd June 2026*

Duration: *4 weeks*

Objective of the Course

The purpose of the program is to develop the skills required to implement an Internet of Things system and to integrate IoT solutions with analytics tools, enabling the analysis of the IoT data collected by the fleet of devices.

Outcome of the Course:

After successful completion of the module, the Participants will be able to:

- ❖ Proficiency in IoT Basics: Ability to understand terminologies, execution of process flow
- ❖ Understanding of Core Concepts: A solid understanding of architecture of IoT, various microcontroller based on IoT

Course Fee: Rs: 3000/- (inclusive of GST)

Eligibility: Pursuing BE/B.Tech at VIT Chennai

Methodology:

- ✓ Teaching Mode: offline
- ✓ Covers both Theory & Practical
- ✓ Certification: On completion of the Mini Project

Registration Link: <https://nva.nielit.gov.in>

*** Registration via the link above is mandatory for all internship participants.**

Contact Details:

- Course Coordinator Name: Raghavendran S
- Email: trng.chennai@nielit.gov.in
- Mobile number: 8807775697, 7598730125



Module No	Module Title	Duration (Week)
1	Module 1: Introduction to the Internet of Things and Embedded Systems	1 Weeks
2	Module 2: Python for Raspberry Pi	1 Week
3	Module 3: Interfacing with Raspberry Pi	1 Week
4	Module 4: Data Science with Python & Project Phase	1 Week
Total Duration		4 Weeks

Syllabus:

Module 1 – Introduction to the Internet of Things and Embedded Systems

- Introduction to IoT and Functional Blocks
- Overview of ARM Cortex-A Architecture and Data Flow Model of IoT
- Challenges in IoT and Case Study
- Microcontrollers and Software
- Functionality of the Raspberry Pi Board
- Introduction to Raspbian OS and GUI Interface
- Linux Basics Commands

Module 2 – Python for Raspberry Pi

- Python on Raspberry Pi IDE & Data Types
- Numbers, Strings, and Control Flow
- Lists vs Tuples vs Dictionaries
- Functions and Function Arguments

Module 3 – Interfacing with Raspberry Pi

- Raspberry Pi GPIO and Programming
- Client–Server Model and Implementation
- Socket Interface, Data Transfer, Internet Control
- Sensor and PiCamera Interfacing
- Sense HAT and Motor Interfacing

Module 4: Data Science with Python

- Pandas Series and DataFrame- Census Data Analysis (CSV)
- Pandas Series and DataFrame- DataFrame Creation, Filtering, Missing Values
- Pandas Series and DataFrame- Data Cleaning
- Static and Dynamic Visualization- Population and Gender Ratio Visualization
- Mini Project- Project Conclusion, Reporting & Validatory Session

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