Innovians Technologies

Happy Learning Ahead

INNOVIANS
TECHNOLOGIES

E-Cell
IIT ROORKEE

INTERNET of
THINGS

Summer Training cum Internship
on IoT-Internet of Things

**2 Weeks / 4 Weeks /6 Weeks /8 Weeks Training on
IoT-Internet of Things.**

*Venue: Delhi/NCR | Bangalore |Hyderabad |
Pune | Bhopal | Bhubaneshwar | Lucknow*

www.innovianstechnologies.com

Company Details

We, **Innovians Technologies (ISO 9001:2015 Certified) (Unit of PRATS Technologies Pvt. Ltd.),** are the India's fastest growing company in the field of Practical Educational Training, Professional Training, Corporate Training, Web & IT Services, with most advanced technologies & experience in hand. We ma-jorly deal in Educational Workshop and Training, Corporate Training, Motivational Seminar, Software Development, Web Development, Consultancy & Out-sourcing, Placement Assistance .

Innovians Technologies delivers interactive training & workshops which equip its participants with better practical understanding and preparation for jobs in industry. The hands-on sessions and lectures are designed based on current industry trends and draw on the rich experience of instructors and organizers. We focus on Android, Ethical Hacking, Embedded Systems, Robotics, Automation, Web Development, Social Networking, 3D Animation, Automobile Mechanics, Aircraft Designing, Share Market, 2G & 3G Technology and many more.

The Corporate Training programs of Innovians Technologies encompass a wide range of skills that are integral & necessary part of everyday business, daylife or work environment. In our quest to address every organizational development need, Innovians Technologies offer a gamut of training programs, which ranges from Motivational Seminar, Faculty/Staff Development Training, 5S Training, Personality Development, Professional Skills Training & Foreign Languages.

Our Mission

Innovians Technologies mission is to offer world class, Professional Training & Development Solutions. We strive to offer excellence, professionalism, and a long-term commitment to remain among the premier Training & Development companies in India. Innovians Technologies and its staff are respected for their dedication and contribution to the industry.

Our Vision

Our values are embraced in the hearts and minds of every Innovians Technologies team member who then embodies these values and shares them throughout our company and with our clients. You will find three core values at work: Relation - We listen, learn, and help selflessly in our interactions with others. Humanity - Through business, we foster a strong sense of corporate social responsibility. Commitment - We honor our commitments and act with responsibility in all our relationships. These values are the building blocks of our work culture.

Our Team of Professional

Our team, as our imperative asset, works with great zeal to realize the mutual interests or our organization. Our team is made of professionals including professional trainers, managers, consultants, business development staff, quality audi-tor and other workforces.

Each member in our team is selected on the basis of their domain knowledge in respective fields. To upgrade the expertise of our team we also conduct regular training exercises. It helps us to be paralleled with new changes occurring time after time in the market. Our team members are highly efficient and understand the needs of clients as precisely as possible.

What is the Internet of Things ?

If you think that the internet has changed your life, think again. The IoT is about to change it all over again!" - — Brendan O'Brien, Aria systems

It's a global network infrastructure, linking physical and virtual objects using cloud computing, data capture, and network communications. It allows devices to communicate with each other, access information on the Internet, store and retrieve data, and interact with users, creating smart, pervasive and always-connected environments.
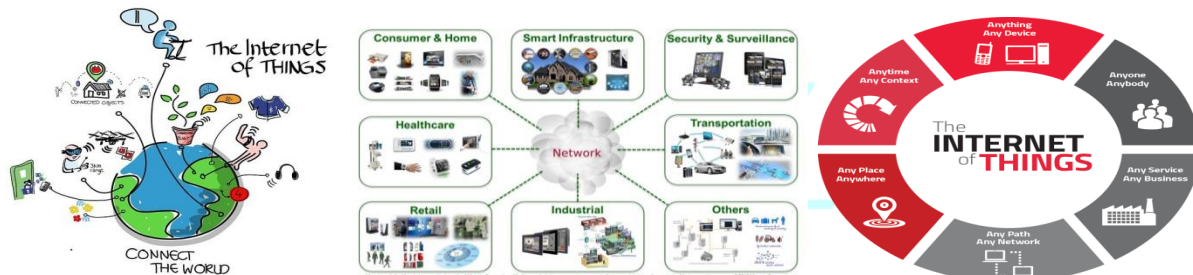
The Internet of Things (IoT), sometimes referred to as the Internet of Objects, will change everything—including ourselves. This may seem like a bold statement, but consider the impact the Internet already has had on education, communication, business, science, government, and humanity. Clearly, the Internet is one of the most important and powerful creations in all of human history.Now consider that Internet of Things represents the next evolution of the Internet, taking a huge leap in its ability to gather, analyse, and distribute data that we can turn into information, knowledge, and, ultimately, wisdom. In this context, Internet of Things becomes immensely important.

About the Training

Can you imagine a computing concept where everyday objects have network connectivity? Is it possible for ordinary devices to communicate among themselves?

Yes!! And the answer is *'the Internet of Things'*.

This Network of networks extracts and makes sense of data within machines. An estimated 30 million wireless devices are to be connected to the internet by 2020.

Interesting! Isn't it?

How beautiful it is when your door can update its Facebook Status every time some one opens it. A song starts playing when you tweet about it. A fire sensor that automatically send an E-Mail to the fire department. Keeping all the awesomeness in mind Innovians Technologies has introduced the Internet of things workshop to get you ready for the future.

Training Highlights

- What "the Internet of Things" means and how it relates to Cloud computing concepts
- How open platforms allow you to store your sensor data in the Cloud
- The basic usage of the Arduino, RaspberryPi & Nodemcu environment for creating your own embedded projects at low cost
- How to connect your Arduino & RaspberryPi with your Android phone.
- Basic usage of RaspberryPi.
- Use of Arduino & RaspberryPi in IoT
- How to create your own Android App using MIT App Inventor.
- How to send data to the Internet and talk to the Cloud.
- How to update sensor readings on Twitter (Social Networking Sites).
- How to control any device from anywhere across the world.
- How to connect to cloud ready IoT Server using MQTT.
- Python, Embedded C, Node.js etc will be covered.

Topics to be Covered in Workshop

- Introduction to the Internet of Things
  - The Internet of Things
  - The Basics of Sensors & Actuators
  - Introduction to Cloud Computing
- The Arduino Platform
  - The Arduino Open-Microcontroller Platform
  - Arduino Basics
  - Arduino Board Layout & Architecture
  - Reading from Sensors
- Programming fundamentals (C language)
- Arduino Programming & Interface of Sensors
  - Interfacing sensors with Arduino
  - Programming Arduino
  - Reading from Sensors

Embedded Projects

Project 1: Simple LED Program for Arduino
Project 2: LED Blink Project
Project 3: Traffic Light Control
Project 4: Displaying Date on Serial Monitor
Project 5: Automated Door Opening System
Project 6: LCD Interfacing
Project 7: LDR Interfacing
Project 8: Smart Street Light System
Project 9: Integrating Sensors & Reading Environmental Physical Values.
 Project 10: Reading Environmental Values on Android Smartphone.
  - Talking to your Android Phone with Arduino
    - Connecting Arduino with Mobile Device.
    - The Android Mobile OS.
    - Using the Bluetooth Module
Project 11: Creating Android App using MIT App Inventor & Sensor Data on the App.
Project 12: Voice Controlled Mini Home Automation using Android Smartphone.
Project 13: Creating Android App using MIT App Inventor & Controlling Devices Connected to Controller.

IoT Projects

Project 14: Control Devices using Localhost Web Server for Home Automation
- Integrating Ethernet Shield.
- Creating Program for Localhost Web Server for controlling devices.

Project 15: Being Social on Twitter & update status on Twitter through Arduino.
- ➢ Make Electronics Gadget Talk to Internet
  - Integrating Ethernet Module
  - Creating App on Twitter

Project 16: Send Voltage & Analog Data on Cloud Server
- ➢ Cloud Computing
  - Communicating with the Cloud using Web Services.
  - Cloud Computing & IoT.
  - Popular Cloud Computing Services for Sensor Management.

Project 17: Use Arduino to Upload free data from Environmental Sensors to Cloud Server.

Project 18: Automatically update status on Twitter based on Sensor Data.

Project 19: Control Electronic Devices from anywhere across the world using Internet & Mobile App.

RaspberryPi Based Projects
- ➢ Understanding and Introduction to RPi
  - What is SOC?
  - Versions of Raspberry Pi & Their Difference
  - Raspberry Pi 3
  - Basics of Electronics
  - Hardware Description
  - Pin Configuration
- ➢ OS Installation on SD Card
  - Downloading Image
  - Study Various Operating Systems Available
  - Making SD Card: Formatting and Partitions
  - Raspberry Pi SD Installer
- ➢ OS Configuration
  - Booting Into Desktop
  - GUI Version
  - CLI Desktop
  - Changing Timezone
  - Other Options
  - Raspi-Config
  - Test
- ➢ Network Setup
  - Setting Up Using GUI
  - Setting Up Using Command Line
  - Finding Pi's IP Address
  - Connecting with Wi-Fi/ LAN/ Datacard
- ➢ GPIO
  - Study GPIO Pins
  - Libraries Using Git
  - Configuring GPIO Pins
  - Pi using SSH
  - Enabling SSH
  - Logging in using Putty
  - Run Basic Commands
  - Use GPIO
- ➢ Linux
  - Understanding Linux
  - File Structure
  - Linux Commands
  - Permissions
- ➢ Using Python

5

- Understanding Python
- Condition Statement
- Loops
- Importing Libraries
- Functions

Project 20: LED Program with Raspberry Pi
Project 21: Controlling LED with a Switch using Raspberry Pi
Project 22: Integrating IR Sensor with Raspberry Pi.
Project 23: Integrating DHT11 with Raspberry Pi.

IoT Projects based on RaspberryPi
Project 24: Sending Sensor Data to Cloud using Raspberry Pi.
➢ Introduction to MQTT & Communication protocol for IoT
- Understanding MQTT
- Difference between HTTP & MQTT
- Understanding MQTT Broker
- Understating Publish & Subscribe Methods

Project 25: Installing server on Raspberry Pi.
Project 26: Connecting Arduino with Raspberry Pi Server.
Project 27: MQTT Subscribe from Arduino.
Project 28: MQTT Subscribe from Arduino.

Nodemcu Projects
➢ Introduction about Nodemcu
➢ Connecting to Local Wifi
➢ Getting Static IP
➢ Pinging a Particular Site for Results

Project 29: Connecting LED to GPIO controlling LED On/OFF State.

IoT Projects Based on Nodemcu
Project 30: Controlling LED based on Web Browser using Nodemcu.
Project 31: Sending Email from Nodemcu.
Project 32: Sending Sensor data to Cloud Server using Nodemcu.
Project 33: Plotting Data on Plotly using Nodemcu.
Project 34: Remotely Temp. Monitor using Nodemcu.

Node.js Projects
➢ Introduction about Node.js.
➢ Installing Node.js server
➢ Writing basic code in Node.js

Project 35: Plotting Data on Plotly using Node.js & Arduino.

➢ Understanding cloud ready IoT Platform Provider like IBM, Google, ARTIK etc.
➢ Case Studies on IoT based projects & implentations.
➢ Discussion about current Challenges in IoT.

Course Duration

- 2 Weeks
- 4-8 Weeks (2 Weeks Classroom Training + 2-6 Week Work From Home Project Time). In 4-8 Weeks Training, 2 Weeks will be of Classroom Practical Technical Training same like two week training program & remaining 2-6 Weeks Time Participants will get for completion of a Project/Research Work from home.

Certificate Policy

- All courses under Summer Training Program (STP) are certified by Innovians Technologies & E-Cell, IIT Roorkee.
- All trainees will receive an Industrial Training Certificate with project completion letter from **E-Cell, IIT Roorkee** & **Innovians Technologies**.
- Letter of Recommendation cum Internship by Innovians Technologies™.

Please Note: In-case of 4 -8 Week Training (2 Week Classroom Practical Training + 2 Week Project Work), participants will get 2 Week Classroom Training same like 2 Week Training Program and they will get 2-6 Week Time to complete one project/research work which they can do it from home. Project Work is for those who want to get 4 Week Training Certificate as per their college/university Criteria of Training. Otherwise participants can apply for 2 Week Training Program. Classroom Training is same for 2 Weeks & 4 Weeks Duration Summer Training.

Eligibility

The pre-requisite for joining this training is zero. Anyone who is interested for this training can register it. Students/faculties from all engineering branches can participate in this training specially participants from **Engineering Branches, M.Tech, MCA, BCA, Polytechnic, Diploma etc**.

Venue

Registered Center
1. Noida (Delhi/NCR)
2. Bangalore
3. Hyderabad
4. Pune
5. Bhopal
6. Lucknow
7. Bhubaneswar

Inside College Premises
If a college want to conduct the summer training in their college premises then we can organize it in their college campus itself but there should be minimum of 35 Participants. (For organizing the Summer Training in your college campus, please contact us separately)

How to Enroll?

- Register yourself at Innovians Technologies™ Internship Website (**www.innovianstechnologies.com/internship**), Register online for any desired course, duration & location of your training course. **Please make payment of Rs 1000 Registration Fee Online in our company bank account for registration through our Partner Gateway using your Debit / Credit Card or Net Banking Facility**. We will send you Confirmation mail regarding your registration. For Payment Options Please visit: tiny.cc/stppayment3
- Please deposit your Course fee to Our Online Bank Accounts before the last date and follow Payment Methods/Options for submitting fee in our account.
- After Direct deposit kindly keep the Bank Receipt with you in original and mail a Scan Copy of that receipt to stp@innovianstechnologies.com. While transferring funds through NEFT please mail us your details with your account number.
- Ask for Confirmation mail after completing above steps.

Training Fees & Discounts

- **Total Course Fees: Rs 6999/- (Inclusive of Registration Fees)**
  Ist Installment: Registration Fee of Rs 1000 to be paid online for confirmation of your seat.
  IInd Installment: Rs 5999 Remaining Course Fees to be paid before starting of training.

Remaining Course Fees
Rs 5999 /- Per Participant (Excluding Registration Fees)

Total Course Fees: Rs 7000/- (Rs 1000 Registration Fees + Rs 6000 Course Fees)

Discounted Fees for Groups

Rs 6650 Per Participant	Rs 6300 Per Participant	Rs 6125 Per Participant	Rs 5950 Per Participant
(3-5 Participant Per Group)	(6-9 Participant Per Group)	(10-19 Participant Per Group)	(20+ Participants Per Group)

Already having Workshop Certification from Innovians Technologies ?
Get up to 15% discount instantly!!!

Referral Discount
Refer 10 of your Friends for the Summer Training & Get your Summer Training Course Fees Cost completely waived off .(Only applicable, if they Register for Summer Training).

Mode of Payment

1. You can make an online payment through our Payment Gateway Partner using your Debit/Credit Card or Net Banking Facility through this link: Pay Online Now!
2. You can direct deposit/online transfer to our ICICI Bank account. Details are as follows:
   Account Name: Innovians Technologies
   Current Account No: 158005001300
   IFSC Code: ICIC0001580
   ICICI Bank, Sector-62,
   Noida, U.P.
3. GooglePay/ PhonePe / Paytm: **9250904129**
4. UPI ID: **innovians@icici**
5. Kindly make a DD (Demand Draft) of required fee in favour of "Innovians Technologies" payable at Noida. Send DD To:
   Innovians Technologies,
   C-56/11, Sector-62,
   Noida, UP - 2010301 (India).
   (Near Stellar IT Park)

Contact

We ensure that you will find our training programs extremely beneficial. If you have any queries kindly get back to us.

Regards
Innovians Technologies
9250904129, 8447802227
Web: www.innovianstechnologies.com
Email: stp@innovianstechnologies.com