GLOBAL IT COMMUNE (GIC)

AND

SAI BALAJI EDUCATION SOCIEITY (SBES)

PRESENTS

Two day workshop

On

ADVANCED INTERNET OF THINGS (IOT)

Venue: July28th and July 29th 2018 , MDP Room /Computer Lab Room

IIMS Pune

Avinash Magdum – Profile

Professional

- A seasoned professional with over 24 years of rich and extensive experience in Software Testing and Development, along with 5 years in teaching
- Currently associated with Harbinger Systems, Pune as General Manager – Quality.
- Enthusiastic IoT Maker, pledged 200+ innovative projects on kickstarter.com and 50+ projects on indiegogo.com
- Experience strategist in implementing quality through functional automation and non-functional aspects like performance engineering and security assessment, Code Review Checklist, Unit Testing,
- Designed and developed multiple automation frameworks to automate and simplify process of automation

Internet of Things

- Microcontrollers: Arduino, ESP8266, Raspberry Pi
- IoT Clouds: Artik, thinger.io, thingspeak.com
- Protocols: MQTT, HTTP, Web Sockets, BLE, ZigBee
- Guided 10+ projects for B.E. students, in IoT area
- Managed multiple IoT projects and Pre-Sals proposals in IoT at Harbinger
- Conducted IoT workshops at many colleges in Pune, Mumbai, Kolhapur

Scholastics

- Pursuing Ph.D. (Security of Communication Protocols in IoT) from Symbiosis International University, Pune.
- Master of Engineering (Electronics) from Walchand College of Engineering, Sangli, Shivaji University in 1993.
- Diploma in Business Management from Shivaji University in 1993.
- A.M.I.E. (Electronics & Communication Engineering) from Institution of Engineers (India), Kolkata in 1989.

IoT Workshop for GIC

Day 1(6hours)

- IoT Overview [2 Hrs]
  - Components of IoT
    - Building blocks of IoT
    - Relationship between the blocks
  - Enterprise IoT Stack
    - Entire echo system of IoT
    - Mandatory and optional features
  - Hardware in IoT
    - Microcontrollers
    - Shields & HATs
    - Sensors & Actuators
  - Software in IoT
    - Cloud Platforms
    - Communication Protocols
    - IoT Applications
  - Popular Technologies
    - FFID
    - GPS
    - RTLS
    - NFC
    - Wireless
- Arduino Fundamentals [2 Hrs]
  - Overview of Arduino
    - Types of Arduino
    - Structure and features of Arduino
  - Arduino IDE
    - The workflow
    - Importing libraries
  - Wiring Programming
    - Most common commands
    - Small Applications with Arduino
- Raspberry Pi Fundamentals
  - Overview of Raspberry Pi [1 Hrs]
    - History of Raspberry Pi
    - Structure and features of Raspberry Pi
- IoT Cloud Platforms [1 Hr]
  - Popular Clouds with Features
    - Thinger.io
    - ContineoNX
  - Interacting Cloud with Arduino
    - Setup
    - Sending Sensor Data to Cloud
    - Sending Data from Cloud to Actuators
    - Reading and Writing Cloud Data from Other Applications

Day 2(6 hours)

- Hands-on Assignments from Participants with a set of 20 IoT kits
  - Part I [2 Hrs]
    - Setting up Arduino
    - Setting up Raspberry Pi
    - Simple Arduino and Raspberry Pi Programs
  - Part II [2 Hrs]
    - Reading Sensor Data from Arduino
    - Reading Sensor Data from Raspberry Pi
    - Writing Data to Actuators from Arduino
  - Part III [2 Hrs]
    - Setting up Wifi on Microcontroller
    - Registration to IoT Cloud
    - Transferring Sensor Data from to Cloud
    - Controlling Actuators Connected from Cloud
    - Visualization of Cloud Data

For the Hands-on Assignments following Pre-requisite is required

- Lab with Desktops or Participants could bring in their Own Laptops
- Internet Connectivity with both Ethernet and WiFi
- One Network / IT Engineer to ensure internet connectivity post Lunch

SAI BALAJI SOCIETY AND GIC PRESENTS TWO DAY ADVANCED IOT WORKSHOP ***On 28th and 29th July , IIMS Pune,***	
Events Coordinated by MOC(Master of Ceremony) – *Mst Aditya Shankar, Steering Committee Member , GIC*	**Time**
DAY -1- 28TH July 2018	
Welcome / Opening address BY Prof Manish Mundada , Chairman SBES	**10 am to 10.10 am**
➢ *Welcome from Convener- GIC, Dr Shankar Ramamoorthy*	**10.10 -10.20**
➢ *Address by Knowledge Sponsor- Verity Software and Felicitation of Verity Software -VAR award*	**10.20-10.30**
➢ *Welcome/ Training Session Day 1 by Mr Avinash Madgum and Felicitation of Trainer*	**10.30- 11.45**
➢ *Tea Break 1*	**11.45- 12.00**
➢ *Training Contd*	**12.00- 1.00**
➢ *Lunch Break*	**1.00-2.00 pm**
➢ *Training continued by Mr Avinash Magdum*	**2.00- 3.30 pm**
➢ *Tea Break -2*	**3.30-3.45 pm**
➢ *Training continued by Mr Avinash Magdum*	**3.45pm -5.00 pm**
DAY 2- 29th July 2018	
lAB Training by Mr Avinash Magdum	**10 am to 11.45 am**
Tea Break 1	**11.45 am- 12.00 pm**
Training Contd	**12.00 – 1.00 pm**
Lunch Break	**1.00-2.00 pm**
Training Contd	**2.00 pm -3.30 pm**
Tea Break 2	**3.30-3.45 pm**
Training Contd	**3.45 pm – 5.00 pm**
Handover of Certificates/Photo session/ Filling Feedback forms	**5.00 – 5.30 pm**