

## 2- DAY WORKSHOP(16 HOURS)

1400/-

## ARM ARCHITECTURE

### Course Introduction

Most new cars and 95% mobile phones contain microcontroller chips designed by ARM, leading semiconductor design company. In fact, ARM architecture is used in embedded systems of almost all modern electronic devices. This workshop is designed to provide industry-level experience in developing embedded systems projects using the widely used ARM architecture.

### Course Highlights

- Introduction to ARM processors and RISC architecture
- Comparing the Advantages of ARM with other micro controllers
- Exposure to ARM hardware architecture
- Learning mbed API
- Understanding GPIO, ADC, PWM and Serial communication programming
- Accessing various onboard sensors like accelerometers, Capacitive touch sensors etc of ARM development board

### Project

- Air Mouse using I2C and Serial communication
- Self Balancing Robot

## Course Structure

- Lecture Session - 3 hrs
- Design Session - 3 hrs
- Fabrication Session - 1 hr
- Programming Session - 6 hrs
- Testing Session - 3 hrs

## Topics Covered

- ARM architecture and programming
- mbed API
- I2C and USB communications
- Self-balancing robot- Overview and concepts
- Programming – Embedded C++

## Kit Content

- ARM Embedded Development Board (FRDM)
- B01 Motors
- Wheels and Wooden Chassis
- 9V Battery
- Connecting wires
- Working Tools\*
- Wire Stripper\*

\* marked items will be taken back

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## Online Portal

Participants have access to an exclusive online portal to:

- View status of registered and attended workshops
- View study material for workshops
- Write online exams and receive separate certificates with scores. These certificates with scores will provide students an opportunity to show their learning in job interviews.

## Certification

- All Roboversity certificates have a unique ID which can be verified online for authentication
- Certificate of Completion
- Certificate of Completion with Distinction (for top performers)

## Eligibility

Anybody interested in Electronics, Programming and Embedded systems can participate in this workshop.

## Why Roboversity?

- Roboversity is a division of Skyfi Labs - an award winning company working towards transforming textbook geniuses into productive engineers.
- Awards won by us:
  - 2nd Best Business Venture Award, Ideas, IIT Kanpur
  - 30 Most Promising Startups, Next Big Idea, IIM Bangalore

- Runner-up, UnLtd India Growth Challenge
  - [Limca book of records](#)
- Associated with industry and partnership with organizations transforming engineering education
  - [Altair Engineering](#)
  - [Boeing](#)
  - [IUCEE](#) (Indo-US Collaboration for Engineering Education)
  - [Startup Village](#)
- Our courses are officially a part of [IIT Delhi Syllabus](#) and [IIT Kanpur orientation](#) programs
- Experience of training students across 27 states in India and Dubai ([Presence](#))
- Improved performance of students in [Campus Placements](#)
- A venture by IIT Kanpur alumni and funded by The Chennai Angels and Spark Capital