"Build a moving Robot using Arduino" by **Sudar Muthu**

Days 1 & 2

- **Brief introduction to robotics**
  - Basic concepts
- **Getting to know the contents of the kit**
- **Introduction about Arduino**
  - Why Arduino
  - What is Arduino
  - Setting up Arduino Environment (if not already done)
  - Writing and uploading sketches to Arduino
  - Using external libraries
- **Controlling external devices using Arduino**
- **Introduction to batteries**
- **Introduction about Motors**
  - DC Motors
  - Stepper Motors
- **Controlling DC motors using Arduino**
- **H Bridge**
  - How it works
  - Setting up H bridge
- **Assembling the bot**
  - Writing Arduino code to control the H Bridge
- **Making your bot move**
  - Controlling its direction
  - Adding additional logic to steer the bot
- **Introduction to IR**
  - How IR works
  - Interfacing IR with Arduino
  - Using IR to detect obstacles
  - Teaching the bot how to avoid obstacles
- Optional Topics
  - Making the bot follow a line
  - Replacing batteries with solar panels
- Future ideas
  - Replacing IR with Ultrasound
  - Controlling bots using Android phones
  - Making it fully autonomous

Caution: All sessions are highly interactive & hands-on with hardware