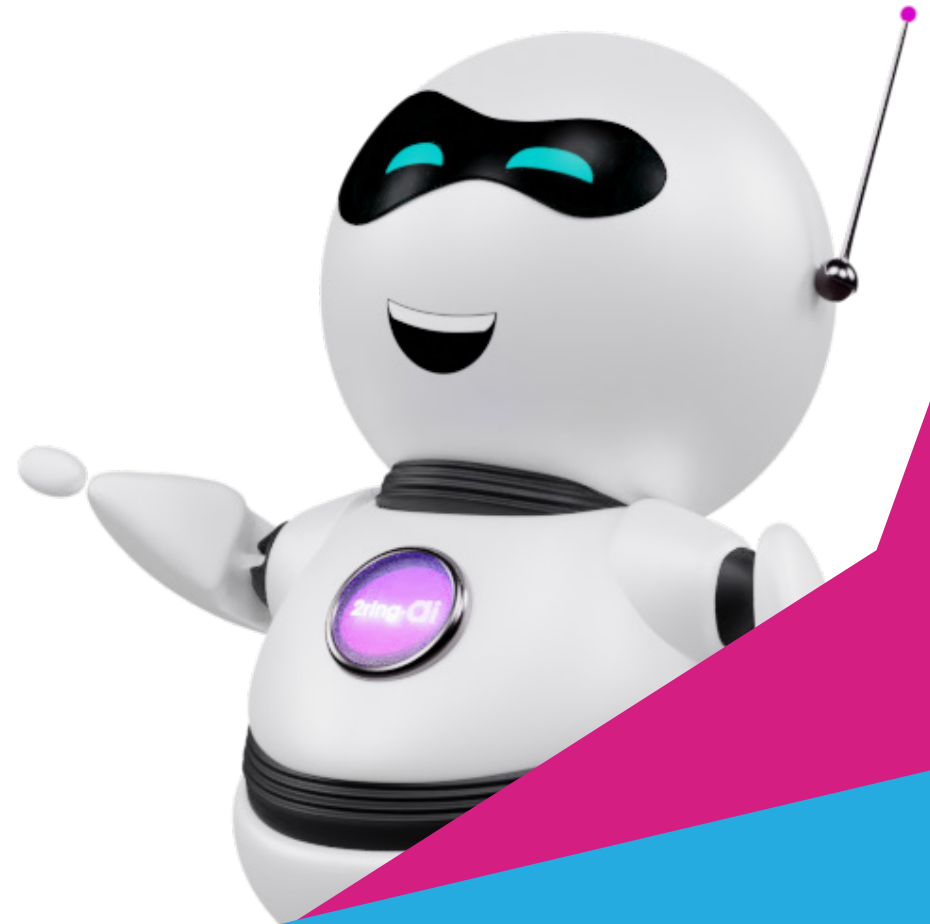


# AiWS | AI World School

Making Students Future Ready!



# Requirements

## Products and tools to be used for AI, Coding & Robotics

### Requirements for AI Lab



Computer System



HEADSET with Mic  
or  
MICROPHONE &  
Speakers in-built



WEBCAM (USB)

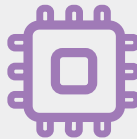


AI PROGRAMMING  
PLATFORM ACCESS

### Minimum System Requirements



Operating System:  
Windows 10 +



CPU:  
Intel Core i3 &  
above | 64 bit  
processor

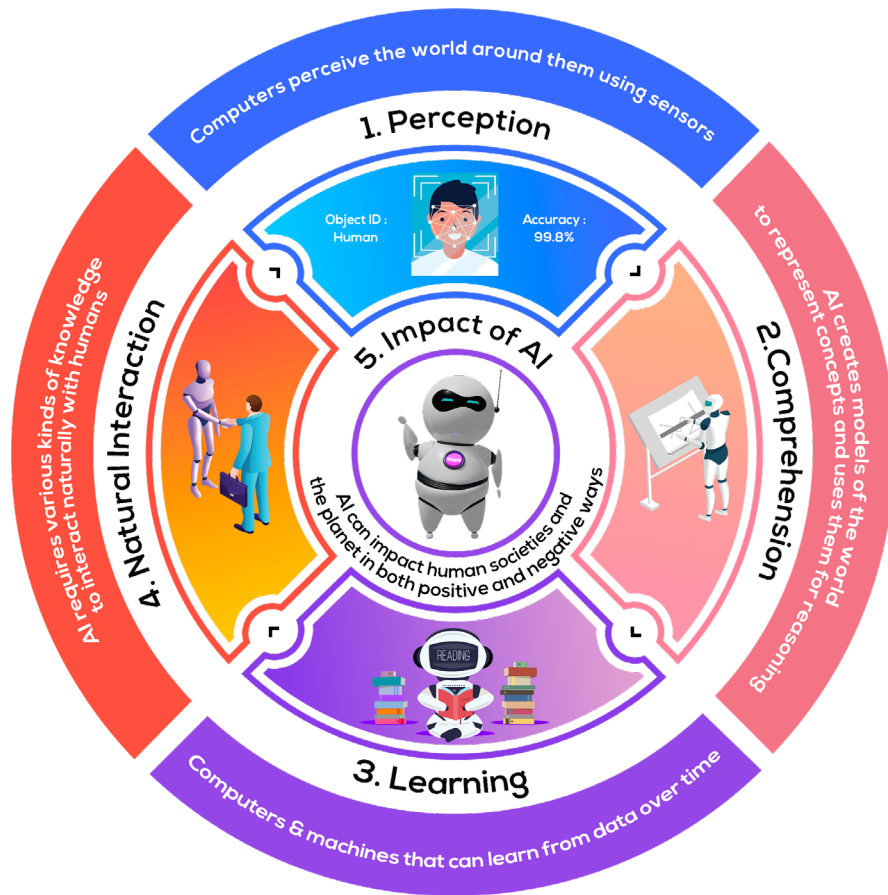


RAM:  
4 GB minimum



Network:  
Wired DSL Internet  
Connection  
40 Mbps minimum

Internet access to be provided in each school



## AI LEARNING PLATFORMS

### Block Based Coding



### High Level Programming Languages



Aligned to 5 Big Ideas of AI proposed by Ai4k12.org

# International Advisors

AI & Coding Education Curriculum Developed under the guidance of an international advisory board constituting of expert educators & technologists.



**RAMANA PRASAD**

Chairman,  
Robotix USA | India,  
Meritus AI, India



**DR. WOLFGANG SLANY**

Pocket Code App Inventor &  
Professor Graz University of  
Technology, Austria



**DR. U. N. UMESH**

Professor, Washington  
State University,  
USA



**DR. DONNA KNOELL**

Globally Recognised STEM  
School Education  
Expert, USA



**DR. TODD ULLAH**

Internationally Acclaimed  
K-12 School Educator in Tech, USA



**DR. S. SWAMINATHAN**

Dean SASTRA University,  
TN, India



**ADITI PRASAD**

COO, Robotix USA | India  
BSL LLB & MS LKY | NUS Singapore



**DR. KEN KAHN**

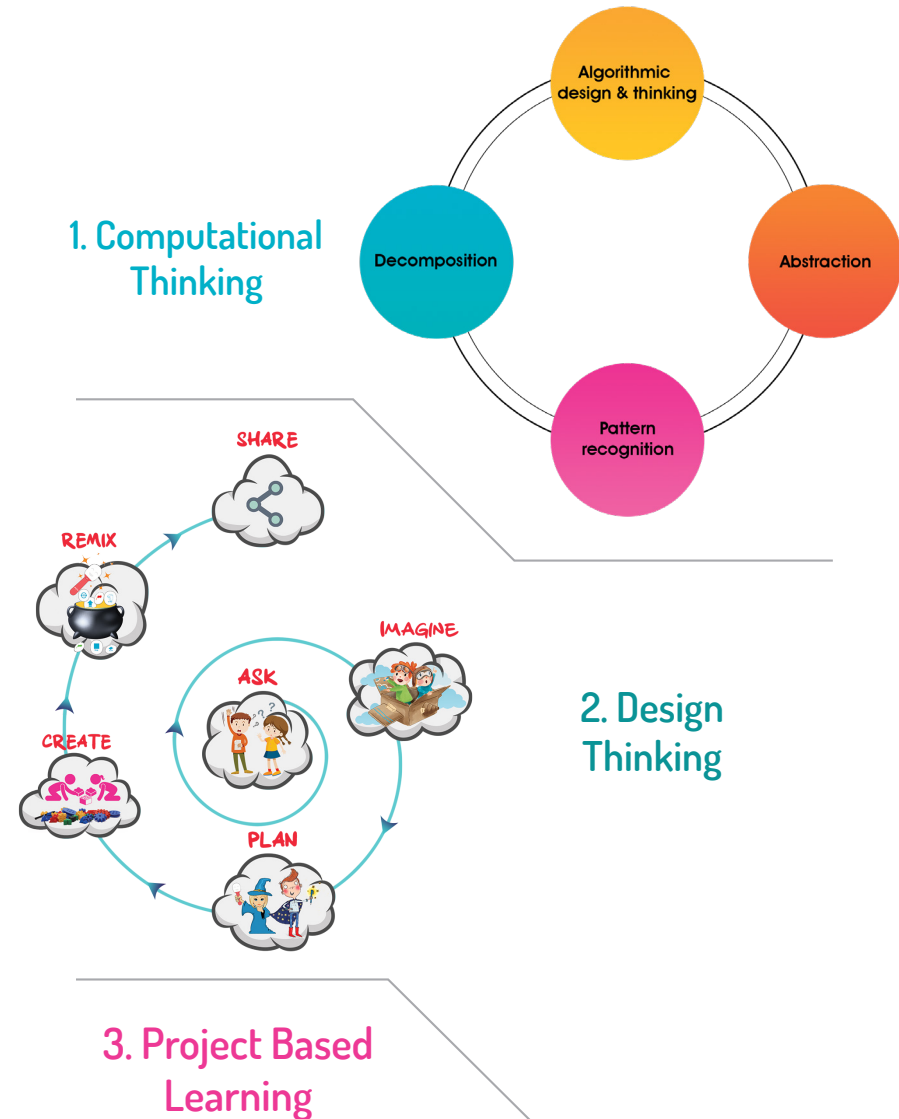
Professor,  
Oxford University, UK

# Teaching Methodology

## Teaching Methodology

### Pedagogical Approach / Learning Process:

- Classroom transactions follow the Blended Learning Principle.
- Students learn AI & Coding via a hands-on learning approach that will enable them to think and create solutions for real-world scenarios.
- The following Teaching Methodologies are inculcated into our curriculum & sessions viz.:
  - ▲ Computational Thinking
  - ▲ Creative Learning Spiral  
[based on Design Thinking Principle]
  - ▲ Project Based Learning



## Flagship Courses

AI Novus | Ages 7 to 10

AI Primus | Ages 11 to 13

AI Meritus | Ages 14 to 18

Virtual Driverless Car | Ages 14 & above

Discover AI with Python [Coming Soon]

Explore AI with Javascript [Coming Soon]

## Micro - Courses

Discover Elements of AI

Fun AI Playgrounds with Scratch

Meet 2Ring.AI

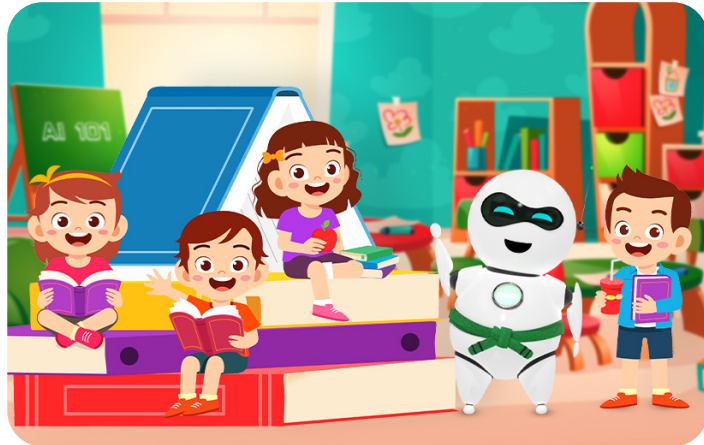
Xperienz the world of AI

Playful AI Explorations with Scratch

Build your own Android/iOS app

# AI Novus

Ages 7 to 10



Duration: 24 sessions  
 Mode: Online & Self Learning  
 Coding Tool: Scratch for AI

Number of quizzes  
**05**

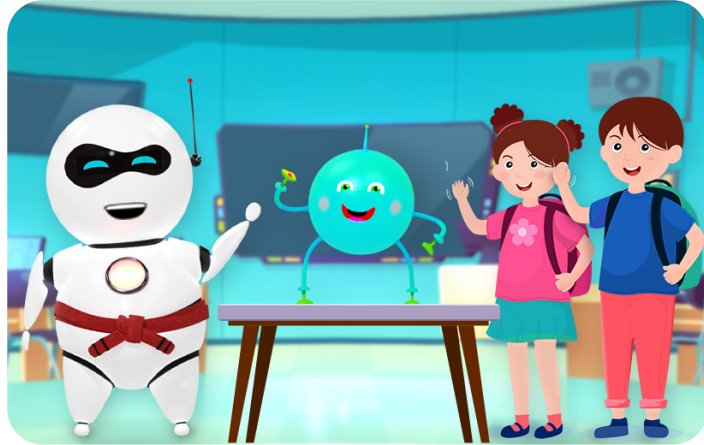
Capstone Projects  
**01**

Course Certificate on completion

Course Outline	What will you create
What is AI?	<ul style="list-style-type: none"> <li>• Introduction to AI</li> <li>• 1 Quiz</li> </ul>
Basics of Perception	<ul style="list-style-type: none"> <li>• What is Perception</li> <li>• 11 AI challenges on Perception</li> <li>• 1 Quiz</li> </ul>
Basics of Human Machine Interaction	<ul style="list-style-type: none"> <li>• What is Human machine interaction</li> <li>• 11 AI challenges on Human-machine interaction</li> <li>• 1 Quiz</li> </ul>
Basics of Machine Learning	<ul style="list-style-type: none"> <li>• What is Machine Learning?</li> <li>• 3 AI challenges</li> <li>• 1 Quiz</li> </ul>
Impact of AI on society	<ul style="list-style-type: none"> <li>• What are AI Ethics?</li> <li>• 1 Quiz</li> </ul>

# AI Primus

Ages 11 to 13



Duration: 24 sessions  
 Mode: Online & Self Learning  
 Coding Tool: Scratch for AI

Number of quizzes  
**05**

Capstone Projects  
**08**

Course Certificate on completion

Course Outline	What will you create
Can machines think?	<ul style="list-style-type: none"> <li>• How is AI different from other machines?</li> <li>• 1 Quiz</li> </ul>
Perception in intelligent machines	<ul style="list-style-type: none"> <li>• Perception in intelligent machines</li> <li>• 5 AI challenges</li> <li>• 1 Quiz</li> </ul>
Basics of KRR & Machine Learning	<ul style="list-style-type: none"> <li>• Intro to Knowledge Representation &amp; Reasoning</li> <li>• Machine Learning concepts</li> <li>• 4 AI challenges</li> <li>• 1 Quiz</li> </ul>
Natural Language Processing	<ul style="list-style-type: none"> <li>• What is Natural Language Processing?</li> <li>• 4 AI challenges</li> <li>• 1 Quiz</li> </ul>
Different Biases in AI	<ul style="list-style-type: none"> <li>• What is AI Bias?</li> <li>• 3 AI challenges</li> <li>• 1 Quiz</li> </ul>
Capstone Projects	8 AI Challenges



# AI Meritus

Ages 14 to 18



Duration: 24 sessions  
Mode: Online & Self Learning  
Coding Tool: Snap for AI & MIT App Inventor

Number of quizzes

05

Capstone Projects

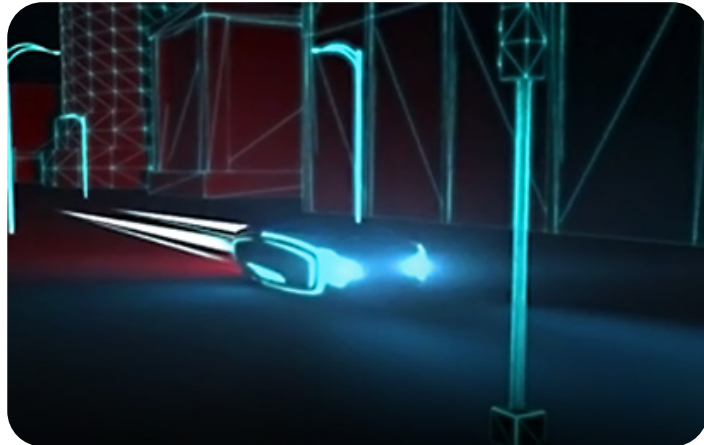
08

Course Certificate on completion

Course Outline	What will you create
Types of AI & their applications	<ul style="list-style-type: none"><li>• Applications of AI</li><li>• 1 Quiz</li></ul>
Computer Vision	<ul style="list-style-type: none"><li>• Intelligent Sensors &amp; Computer Vision</li><li>• 5 AI challenges</li><li>• 1 Quiz</li></ul>
Machine Learning & its types	<ul style="list-style-type: none"><li>• Types of Machine Learning</li><li>• Deep Learning</li><li>• 5 AI challenges</li><li>• 1 Quiz</li></ul>
Role of KRR in AI	<ul style="list-style-type: none"><li>• Role of Knowledge Representation &amp; Reasoning in AI</li><li>• 5 AI challenges</li><li>• 1 Quiz</li></ul>
AI Ethics	<ul style="list-style-type: none"><li>• Ethics of AI</li><li>• 4 AI challenges</li><li>• 1 Quiz</li></ul>

# Virtual Driverless Car

Ages 14 to 18



Duration: 20 sessions  
 Mode: Online & Self Learning  
 Coding Tool: Python

Number of Lessons  
**05**

Capstone Projects  
**01**

Course Certificate on completion

Course Outline	What will you create
<b>Introduction to Self-Driving cars</b>	<ul style="list-style-type: none"> <li>• Role of AI in Self-driving cars</li> <li>• Applications of self-driving cars</li> <li>• Discuss US National Highway Traffic Safety Administration</li> </ul>
<b>Computer Vision in Self-Driving cars</b>	<ul style="list-style-type: none"> <li>• Sensors in self-driving cars</li> <li>• Computer vision tools to detect lanes on roads</li> </ul>
<b>Neural Networks</b>	<ul style="list-style-type: none"> <li>• Learn about input, output and hidden layers in neural networks</li> <li>• Identify the pipeline &amp; tracking the position of lane lines in video streams</li> </ul>
<b>Building a traffic sign classifier</b>	<ul style="list-style-type: none"> <li>• What is the MNIST Dataset</li> <li>• Explore handwritten digit classification</li> <li>• Build &amp; carry out summarization, distribution &amp; validation of the dataset</li> </ul>
<b>Testing the Self-driving car</b>	<p>Compile the training data and test it out on a virtual racing track</p>

# Discover the Elements of AI

Ages 7 to 10



Duration: 05 sessions  
 Mode: Online & Self Learning

<p>Number of Lessons</p> <p><b>04</b></p>	<p>Number of Quizzes</p> <p><b>01</b></p>	<p>Capstone Projects</p> <p><b>01</b></p>
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Course Certificate on completion

Course Outline	What will you create
What is Artificial Intelligence?	Understand that Artificial intelligence is a way of making a computer, robot or software think and act like a human
Are machines smart?	Explore how AI helps machines perceive and learn
Do machines learn like humans?	Explain how machines behave the way we want using machine learning
Will AI impact us?	AI will impact society in different ways, understand the positive and negative ways AI impacts us

# Fun AI Playgrounds with Scratch

Ages 7 to 10



Duration: 05 sessions  
 Mode: Online & Self Learning

Number of Lessons <b>05</b>	Number of Quizzes <b>01</b>	Capstone Projects <b>01</b>
--------------------------------	--------------------------------	--------------------------------

Course Certificate on completion

Course Outline	What will you create
Can machines differentiate languages?	Design a program to recognize the language of the text entered by the user, using the "Recognize Language" extension of AI
Is it possible to identify if a sentence is positive or negative?	Create a program to recognize whether the sentence spoken by the user is positive, negative or neutral
How can finger movement be tracked?	Develop a program uses that the "Finger Identification" extension of AI where the sprite follows the finger movement of the user
Does AI classify images?	Build a program to teach the machine, numbers from 1 to 5 by showing images and entering the respective numbers.

# Meet 2Ring.AI

Ages 7 to 10



Duration: 05 sessions

Mode: Online & Self Learning

Number of  
Lessons

05

Number of  
Quizzes

01

Course Certificate on completion

Course Outline	What will you create
What are conversational agents?	Explore and experiment with teachable AI using a voice-based input to understand conversational agents
How does knowledge representation happen in machines?	Discover how AI can learn through human interactions
Can we teach machines?	Understand how to create a browser-based UI that displays what AI has learnt
Can the knowledge be biased?	Explain how biased systems affect society

# Xperienz the world of AI

Ages 11 to 13



**Duration:** 05 sessions

**Mode:** Online & Self Learning

Number of Lessons  
**04**

Number of Quizzes  
**03**

Course Certificate on completion

Course Outline	What will you create
<b>Define Artificial Intelligence</b>	Understand how human behaviour is mimicked by machines
<b>What are the different tools and technologies used by AI?</b>	Explore tools like computer vision, machine learning, cognitive computing and many more in this lesson
<b>Can machines learn without being programmed?</b>	Machines can be trained to learn from experiences and examples learn all about it in this lesson
<b>How will AI impact us?</b>	Describe the different uses of AI, from helping us select music to play, control devices at home to helping space shuttles go to space

# Playful AI Explorations

Ages 11 to 13



Duration: 05 sessions

Mode: Online & Self Learning

Number of Lessons  
**05**

Number of Quizzes  
**01**

Capstone Projects  
**01**

Course Certificate on completion

Course Outline	What will you create
Can you build a home automation system?	Use a text-based machine learning model to create a home automation system
Is it possible to classify images?	Build an image classification model using an image-based machine learning model
What is computer vision	Create a face recognition security system using computer vision
How to create a posenet detection model	Explore computer vision techniques to create a posenet vision estimation model using scratch



**Explore the world of AI at**

[www.aiworldschool.com](http://www.aiworldschool.com)

