



# ADVANCED CURRICULUM (GRADES 4-6)

Build full Entrepreneur-ready Games, Apps, Websites and AI/ML Models



Class 1-48

## Game Design and Basic App Development

Class 49-96

## Web Applications and UI/UX Design

Class 97-144

## Artificial Intelligence based Applications

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### Game Development

Students learn basics of programming while designing simple and complex arcade games.

- ✓ Sequence
- ✓ Events
- ✓ Variables
- ✓ While Loops



#### Basketball game

Design a single player basket ball game.

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### Basic App Development

Students will learn how to build native apps and publish them on PlayStore.

- ✓ GUI
- ✓ Alpha/Beta Test
- ✓ Recursive Loops
- ✓ Conditional Loops



#### Native App

Build a Health Statistics app

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### Utility Apps

Students will learn how to build advanced utility apps.

- ✓ Functions
- ✓ Maths
- ✓ Event Listeners
- ✓ App publishing



#### Music Player App

Build an app to play music from playlist.

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### Communication & Cloud based Apps

Students will learn to build advanced chat bots and cloud based apps.

- ✓ Intents
- ✓ AI Basics
- ✓ Keyword Mapping
- ✓ Cloud Database



#### AI Chatbot

Build a Personal Chatbot Assitant

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### UI/UX Design

Students will learn how to build static websites with customized UI/UX

- ✓ Palette
- ✓ Animation
- ✓ App components
- ✓ Logo Design



#### Personal Website

Build a static personal website.

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### Front End Development

Students will learn Web Design with Advanced Libraries

- ✓ HTML v5
- ✓ CSS v3
- ✓ Javascript ES2020
- ✓ Bootstrap v4.1



#### Responsive Portfolio Website

Build a responsive portfolio website using Bootstrap library.

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### SpaceTech Simulations

Students will learn to build interactive space simulation apps.

- ✓ Canvas
- ✓ Libraries
- ✓ Maths
- ✓ Responsive Web Design



#### Gravity App

Students will simulate the effect of gravity on free falling objects on different planets

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### Full Stack Development

Students will design and code real-life applications with Cloud Database Integration

- ✓ UI/UX
- ✓ Web Design
- ✓ Local Storage
- ✓ Google Firebase



#### Twitter for Kids

Build your own social microblogging site.

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### NLP

Students will learn how to convert speech into text and vice versa at real time

- ✓ Voice
- ✓ Text
- ✓ Speech Tagging
- ✓ Speech Control



#### Speech Recognition App

Build an intelligent Alexa like AI machine.

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### Neural Networks

Students will learn how to train models and maths behind the same.

- ✓ Layers
- ✓ Classification
- ✓ Training Models
- ✓ Google TensorFlow



#### Emotion Recognition App

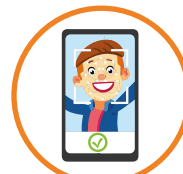
Build a app with pre trained model to detect human emotion.

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### Digital Processing

Students will learn what happens at the backend of image recognition algorithms via building hands-on projects.

- ✓ Tensors
- ✓ Image Classification
- ✓ Image Data
- ✓ Image Recognition



#### Image Recognition App

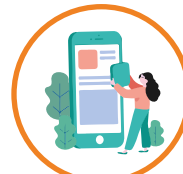
Using Neural Networks to build filters like Snapchat.

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### Machine Learning

Students will explore some of the most popular Artificial Intelligence concepts and create fun-filled applications.

- ✓ AI Control Flow
- ✓ Object Identification
- ✓ Feature Extraction
- ✓ Google TensorFlow



#### Applied AI

Apply several Neural Networks to build a world class AI product App or game.

