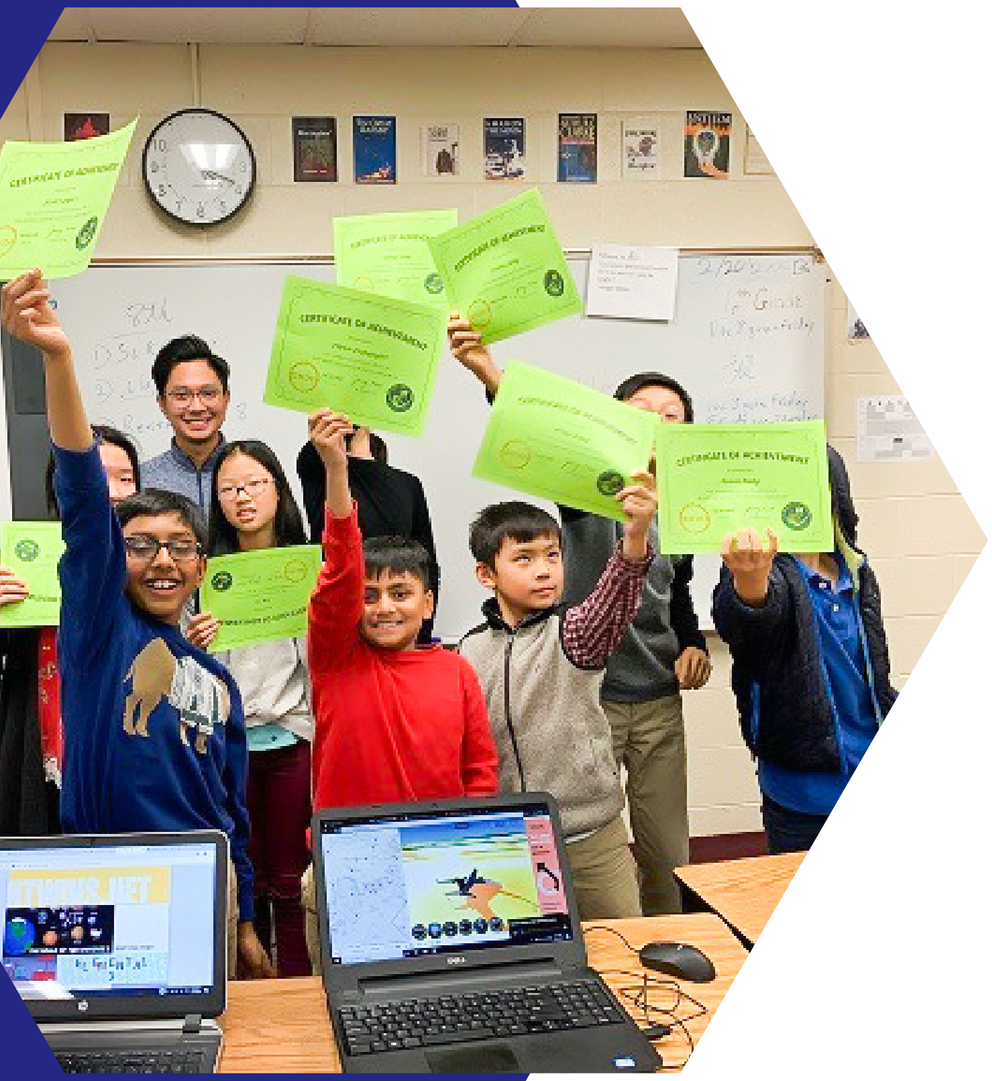
AICODE101 STEM PROGRAMS
一画智能科创课程

PLB 项目式学习



PBL 项目式学习

最新编程+人工智能物联网知识

- 基于项目式教学满足孩子学习成就感
  学生每天都有新收获
- 激发孩子们兴趣和追求成功的氛围
  嫁接最新技术和学生成长的兴趣点
- 不同课题项目搭建孩子们的综合能力
  迎接人工智能物联网时代

学生在我们的心中永远第一位

打造轻松包容的学习环境，不分性别种族，在STEM 计算机科学和人工智能领域取得成功

趣味横生的教学课题让各个年龄段学生都快速沉浸投入

过去两年我们已经教授超过7500 来自全球各地的学生

我们感恩收到大量积极和建设性的意见。家长满意度持续在93% 以上

为什么选择我们?

多种智能硬件:

- 感应器
- 树莓派
- 智能车
- 智能狗

人工智能建模平台:

- 文字识别
- 图片识别
- 语音识别
- 数据分析

耐心专业的教练

所有教练都是美国大学计算机或电子工程专业本科以上，热情，耐心

我们的人工智能建模平台

基于大数据的机器学习建模被分成简单有趣的4步来完成

1 Create Labels & Samples

2 Train Your Model

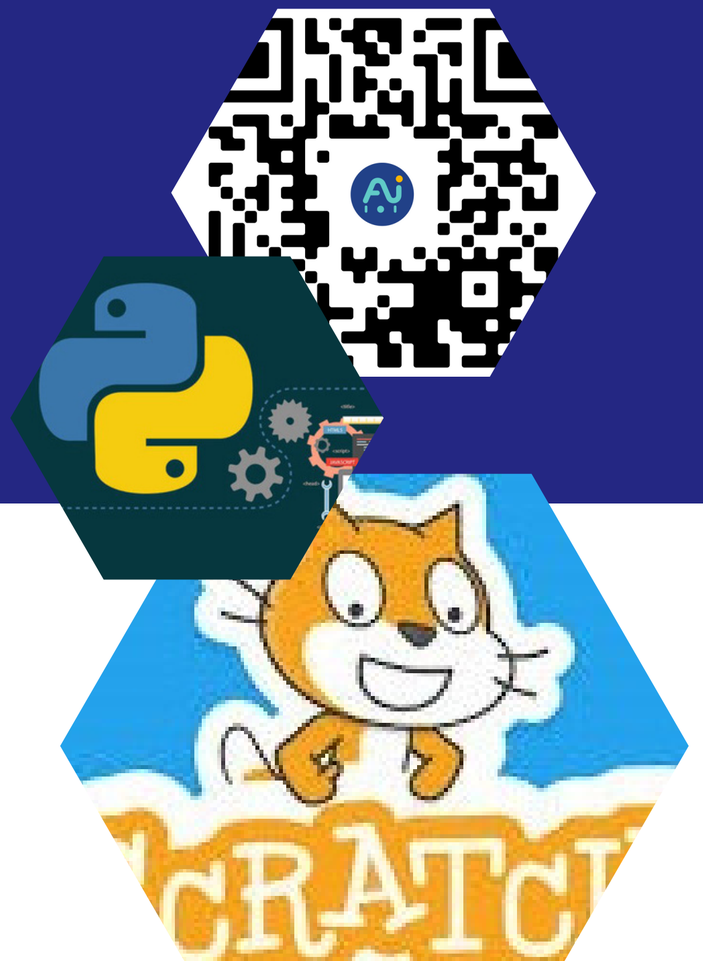
3 Test Your Training

4 Apply Your Model

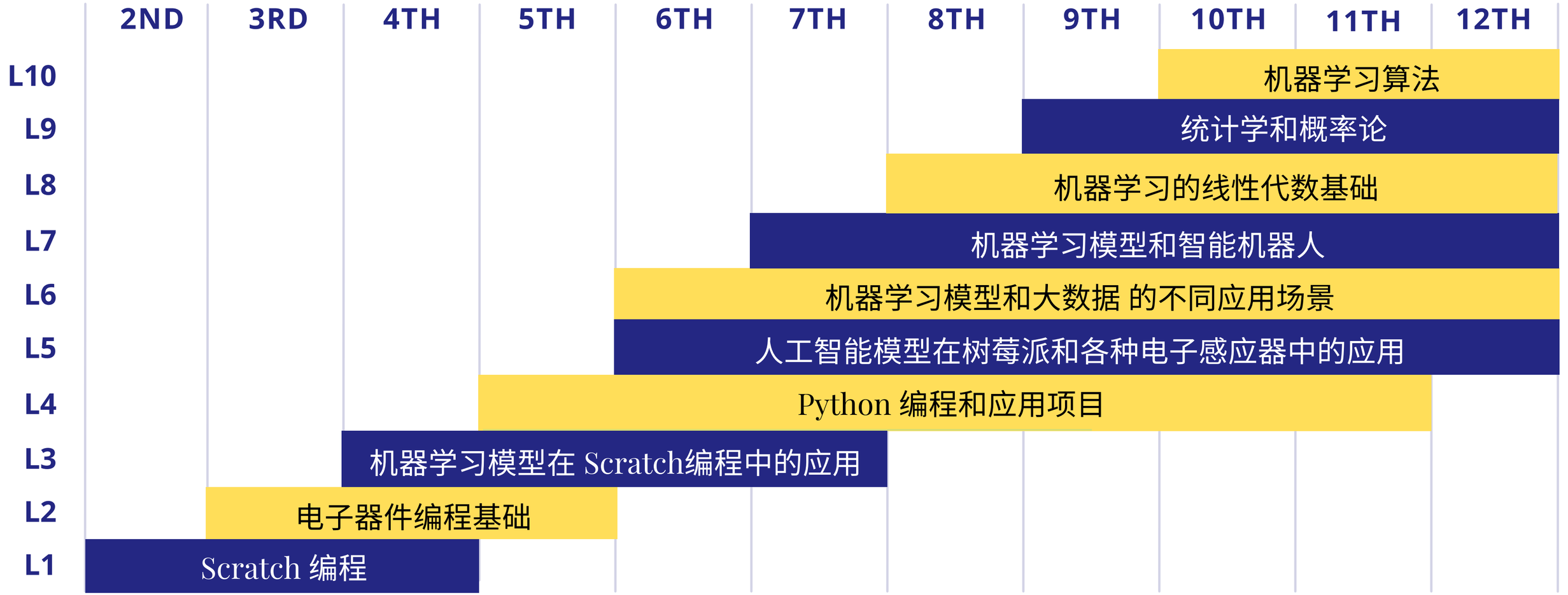
Easy & Fun

www.aicode101.com

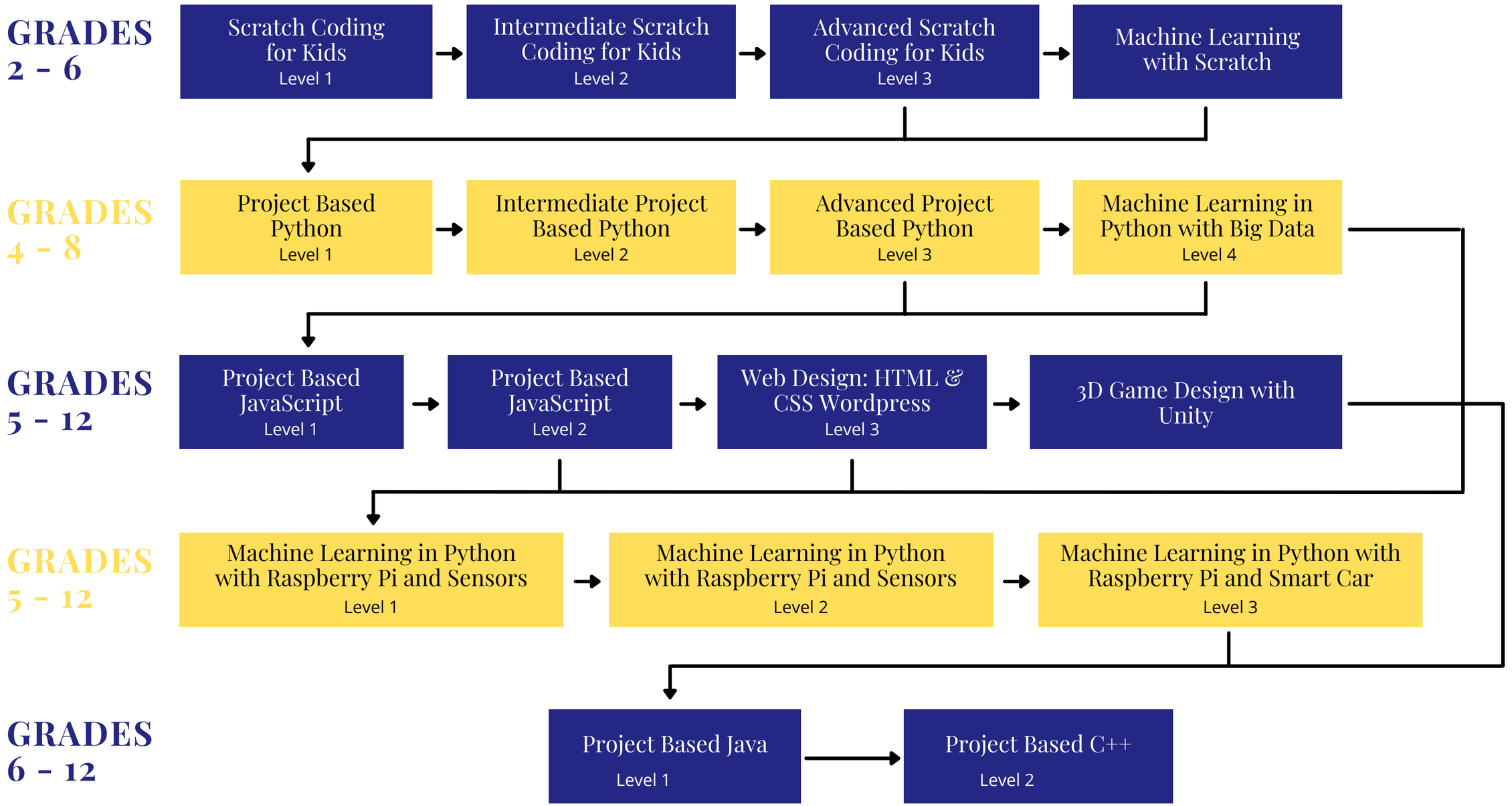
- 文字, 图片和声音识别
- 构建决策树分析不同数据
- 三种应用输出环境
  - **Scratch**
  - **Python**
  - **Smart Devices (QR Code)**



中小学人工智能系列课程



进阶课程


GRADES 2 - 6
Scratch Coding for Kids
Level 1
Intermediate Scratch Coding for Kids
Level 2
Advanced Scratch Coding for Kids
Level 3
Machine Learning with Scratch
GRADES 4 - 8
Project Based Python
Level 1
Intermediate Project Based Python
Level 2
Advanced Project Based Python
Level 3
Machine Learning in Python with Big Data
Level 4
GRADES 5 - 12
Project Based JavaScript
Level 1
Project Based JavaScript
Level 2
Web Design: HTML & CSS Wordpress
Level 3
3D Game Design with Unity
GRADES 5 - 12
Machine Learning in Python with Raspberry Pi and Sensors
Level 1
Machine Learning in Python with Raspberry Pi and Sensors
Level 2
Machine Learning in Python with Raspberry Pi and Smart Car
Level 3
GRADES 6 - 12
Project Based Java
Level 1
Project Based C++
Level 2

SCRATCH 编程项目

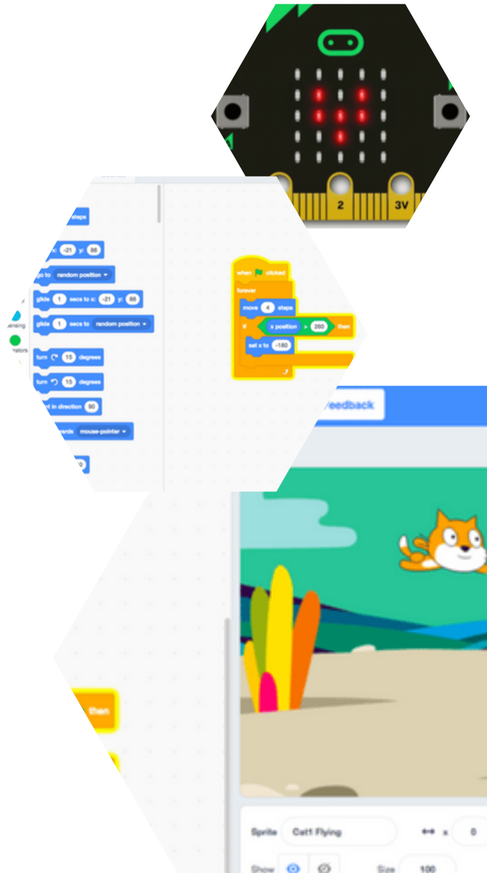
2 – 5 年级

课程培养目标:

- Foundation of logic
- Understanding of basic game design
- Improved problem solving skills
- Code debugging
- Readiness for Artificial Intelligence with Scratch
- Basic Micro.bit interaction (programmable micro-computer)

Scratch是全球最流行的儿童编程语言和平台，简单有趣！
我们的课堂小项目注重培养孩子们的逻辑思维和计算思维 同时教授孩子们基本的编程技巧和游戏设计， 为学习人工智能课程打下良好的基础

- 美国麻省理工大学创建的模块式编程语言。7岁的孩子就可以轻松设计游戏和模拟现实问题
- **三级课程由简至难， 每级15个小时**
- 每级课程包含8个不同课题项目 和Scratch编程基础命令。
- 每个学生都会完成和展示自己的结课小项目
- 优秀学生有机会受邀参加Scratch比赛和美国计算机联赛



人工智能建模及SCRATCH编程应用

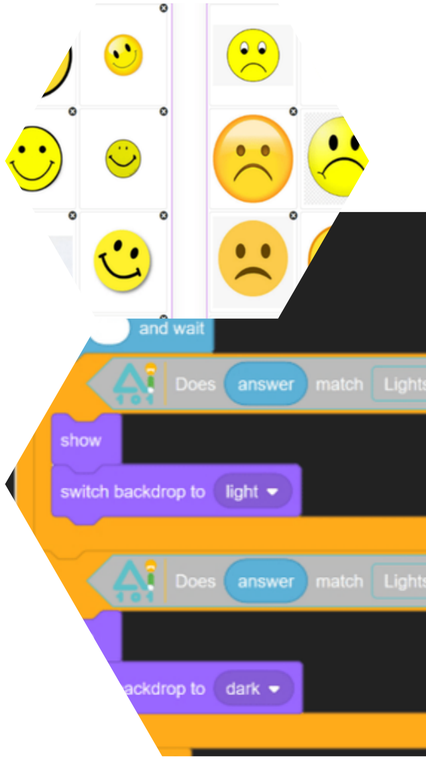
4 - 6 年级

课程培养目标:

- Understanding of supervised machine learning using labels and sample data
- Searching and sorting algorithms
- Abilities to interpret the machine learning results
- Enhanced coding skills with loops, variables, and conditionals
- Improved problem-solving skills with problems from the real world

我们为小学生提供了简单易学有趣的人工智能项目，学生们可以在我们自主开发的平台轻松构建机器学习数据模型 并应用到Scratch中进行人工智能游戏设计。 该课程为小学生提供最好的方式去了解和熟悉大数据和机器学习

- 学习更高阶的Scratch编程技巧.
- 学习语音识别，图片识别和文字识别，以及数据建模。
- 熟悉机器学习的训练和测试
- 从人工智能模型到 人工智能Scratch游戏设计， 让游戏具有人工智能功能
- 本课程包含8个不同课题项目 和Scratch编程基础命令。15个学时。
- 每个学生都会完成和展示自己的结课小项目
- 优秀学生有机会受邀参加Scratch比赛和美国计算机联赛



PYTHON
人工智能编程项目

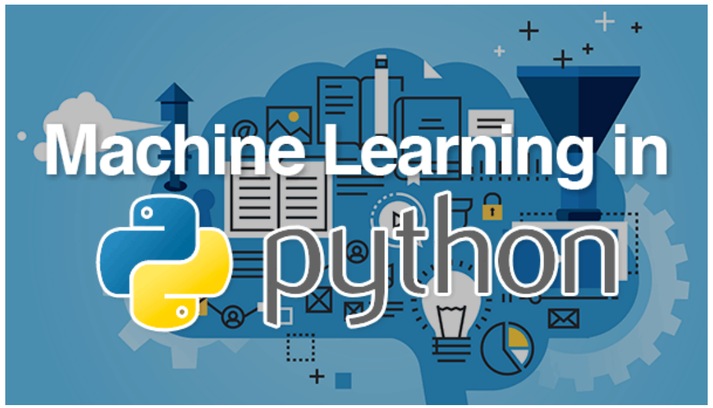
5 - 12 年级

课程培养目标:

- Enhanced coding skills with lists, functions, and modules
- Ability to plan and design code for difficult tasks
- Improved problem-solving skills with problems from the real world

该系列课程让学生有机会学习Python的各种命令和程序包的使用。 所有课堂小项目的设计都会结合中小学生的兴趣和知识，包括图形设计，游戏设计和各种实际应用，如股票预测

- Python 不仅仅是人工智能技术的核心编程语言更是在工程和商业各类行业广泛使用的计算机语言。
- 四级课程由简至难， 每级15个小时: **初级, 中级, 高级和机器学习大数据.**
- 每级课程包含8个不同Python课题项目 和Python编程基础命令语法。
- 每个学生都会完成和展示自己的结课小项目
- 优秀学生受邀参加美国计算机联赛



RASPBERRY PI + SENSORS
树莓派和感应器

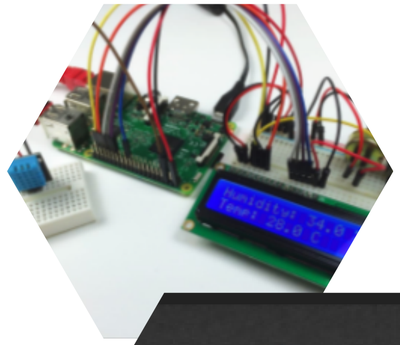
Grades 6 - 12

课程培养目标:

- Advanced problem solving with sensor modules and Python
- Advanced project physics concepts
- Experience with more than 25 electronic components
- Ready for machine learning with smart devices
- Advanced Raspberry Pi and sensor interaction

我们的树莓派系列课程让同学们探索如何用Python编程控制和采取各种电子感应器的数据。 同时熟悉基于规则和基于数据的两种模型算法， 为学习更高级的智能设备做准备

- 三级课程共涵盖25种不同的电子感应器，学生通过搭建电路和编程提取和输入数据控制包括LED灯，发动机，超声波，红外线感应器和相机等各种感应器
- 每级课程8个不同感应器和电路课题项目 及Python编程处理，其中包括两个机器学习模型搭建智能电子器件
- 第二级和第三级课程每个学生都会完成和展示自己的结课小项目
- 为学习物联网做好准备



RASPBERRY PI
树莓派和智能设备

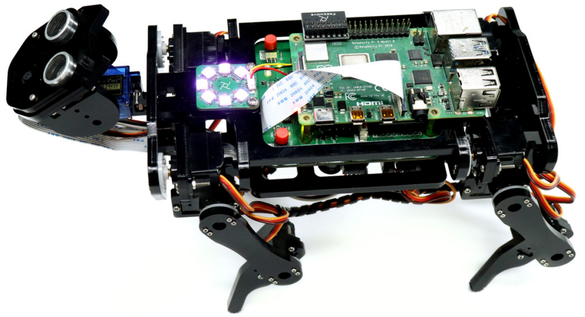
Grades 6 - 12

课程培养目标:

- Application of machine learning concepts to real word problems
- Advanced projects involving multiple sensors and vehicle control
- Understanding of machine learning data collection and significance of proper model training
- Experience constructing and controlling smart robotic systems

基于树莓派 的智能机器人项目给我们的学生更高的挑战！
与其他已安装智能的机器人项目不同，我们的学生要亲自动手组装机器车和机器狗， 然后自己融合人工智能建模， Python 编程和机器人知识让机器车和机器狗成为智能机器人去模拟和解决不同的实际问题

- 两级课程分别组建智能车和智能狗。 每个智能设备包含不同的电子感应器，指示灯，发动机，相机和语音系统等.
- 独家课程包含人工智能建模训练从感应器接收的数据 实现和模拟自动驾驶技术
- 训练智能车狗行进（散步），自平衡，球追踪，面部检测，实时视频，超声波测距等.



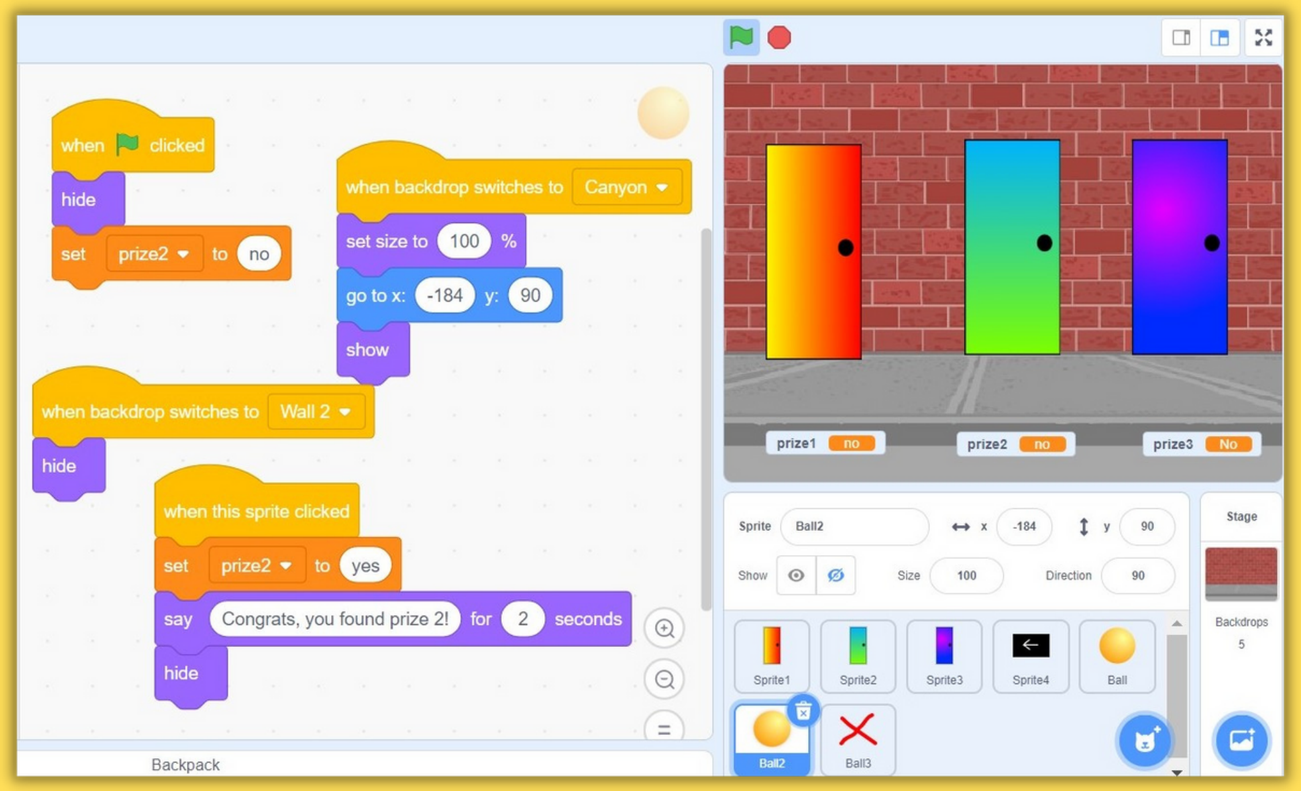
学生成果：SCRATCH PROJECTS Grades 2 – 5

ISAAC

12 Years Old

SCRATCH
Levels 1, 2, and 3

FINAL PROJECT:
Crazy Scavenger Hunt



"My son loved this course. He created many fun games in this camp. Some of them were difficult for him, but he was able follow along and complete them all. "

- Nicole, Parent of Isaac

学生成果：PYTHON PROJECTS

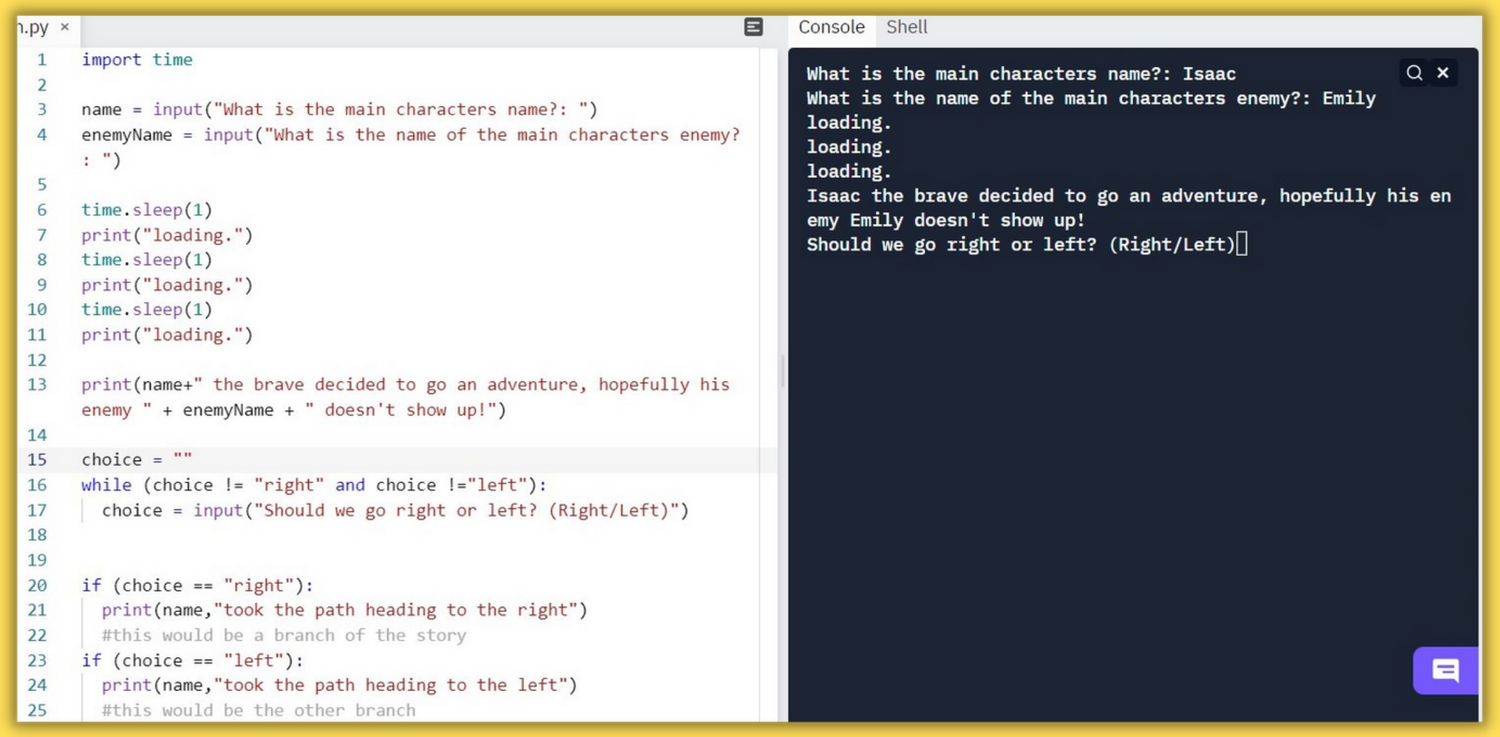
Grades 5 - 12

JACOB

10 Years Old

PYTHON
Levels 1, and 2

FINAL PROJECT:
Text-Based Adventure Game



```
import time

name = input("What is the main characters name?: ")
enemyName = input("What is the name of the main characters enemy?
: ")

time.sleep(1)
print("loading.")
time.sleep(1)
print("loading.")
time.sleep(1)
print("loading.")

print(name+" the brave decided to go an adventure, hopefully his
enemy " + enemyName + " doesn't show up!")

choice = ""
while (choice != "right" and choice !="left"):
  choice = input("Should we go right or left? (Right/Left)")


if (choice == "right"):
  print(name,"took the path heading to the right")
  #this would be a branch of the story
if (choice == "left"):
  print(name,"took the path heading to the left")
  #this would be the other branch
```

```
What is the main characters name?: Isaac
What is the name of the main characters enemy?: Emily
loading.
loading.
loading.
Isaac the brave decided to go an adventure, hopefully his en
emy Emily doesn't show up!
Should we go right or left? (Right/Left)
```

"My 11 year old really enjoyed this class as well as the Level 1. He created small programs that really impressed me, I am easily impressed but my husband who is much more advanced was impressed too. My son really stayed engaged throughout the 90 minutes and participated actively. "

- Daphne, Parent of Jacob

学生成果：RASPBERRY PI PROJECTS

Grades 5 - 12

EMILY

13 Years Old

HARDWARE CODING WITH RASPBERRY PI
Levels 1, and 2

FINAL PROJECT:
Raspberry Pi Photometer

"Highly recommend. Such an interactive and engaging class where kids get to code and see the results in a tangible way. "
- Celine, Parent of Emily

家长反馈REVIEWS

4.66/5 STAR CUSTOMER REVIEW RATING

"My 14 year old loved this-- he found it interesting and told us about what he was working on each day. He seemed to feel comfortable talking with Coach Griffith and the group, and took his project seriously and had fun trouble shooting."

- Joannah H, Machine Learning with Python

"My son has done many classes this summer. This was by far his best class and specially because of the teacher Connor S. He loved the class, the way it was taught, the Scratch - AI projects and was looking forward to it each morning. He says he did not just like this class, he loved this class :)"

- Apurva P, Machine Learning with Scratch

"Our 9 year old daughter loved this class! This is the second course she has taken through the Delaware STEAM Academy and we are incredibly happy with her progression - more importantly, she has really enjoyed learning to code in different languages!"

- Lauren C, Web Design with HTML/ CSS

"My 11 year old daughter loved this class! She did have some basic coding background going into it, so that definitely helped her to feel comfortable. She said she really liked how the teacher taught the class."

- Otti M, Project-Based JavaScript