Introduction to AI for Middle School (1 Month)

Course Overview

(10 Contact Hours)

Course Overview and Goals

With Artificial Intelligence becoming integral to many industries, exposing students to AI prepares them for a world where AI literacy will be an essential skill – whether they are building AI technologies or simply using it. In this ten-hour exploratory course, students dive into a variety of AI projects to help expose and prepare them for the future by equipping them with crucial skills in our technology-driven world. Learning and working with AI helps to enhance problem-solving skills, promote ethical understanding, spark new creativity, and increase overall digital literacy.

Students will explore the world of Artificial Intelligence by completing ten projects. Students will learn to use AI to generate content, to write effective prompts to generate desired results, and to build their own machine learning model using Teachable Machine. By the end of the course, students will have a more nuanced understanding of the benefits and challenges associated with AI.

Learning Environment: This course utilizes a blended classroom approach. The content is a mix of web-based and physical activities. Teachers utilize tools and resources provided by CodeHS to leverage time in the classroom and give focused 1-on-1 attention to students.

Technology Requirements: Students will need to create logins to interact with certain sites used within the course and will need webcam access for a few of the projects. AI models used in these projects include the following:

- Thing Translator
- Suno AI
- AI Dungeon
- TeachableMachine
- ChatGPT, Gemini and/or Copilot
- Microsoft Vision Studio
- Loudly
- Soundraw

More information: Browse the content of this course at https://codehs.com/course/23297

Project Overviews

Each project will take approximately 45 minutes to an hour to complete. Additionally, most projects include extension ideas to extend the length and depth of the project.

Project	Description	AI Tools/Permissions
What is AI?	In this project, students will learn the generative power of AI and explore AI's ability to generate text, images, music, and videos.	• Thing Translator (requires webcam access) • Infinite Craft • Quick Draw • Suno AI
Communicating with AI	In this project, students will use machine learning models to teach an AI to recognize different language systems, including written letters and sign language. They will explore how different training data affects accuracy.	• Teachable Machine • Webcam access
Machine Learning and Music Classification	In this project, students build a machine learning model that analyzes and classifies music using *Teachable Machine*.	• Teachable Machine • Microphone access
Does AI Know How to Code?	In this project, students will evaluate the programming skills of a large language model AI.	• ChatGPT, Gemini and/or Copilot
Generative AI	In this project, students will explore the creativity and power of generative AI with both images and text to create a new animal.	• Gemini
Can You Stump an AI?	In this project, students will explore inaccuracies, or hallucinations, of AI programs, and they will try to find a prompt that will cause an inaccurate response.	• ChatGPT, Gemini and/or Copilot
AI Prompt Engineering with a Historical Figure	In this project, students will practice prompt engineering or crafting prompts to guide an AI Chatbot to produce the most accurate, relevant, and useful responses. They will explore this technique by prompting an AI Chatbot to answer as Albert Einstein or Martin Luther King.	• ChatGPT, Gemini and/or Copilot
AI and Accessibility	In this project, students will learn about different	• Microsoft Vision Studio

	ways AI is making the world more accessible to everyone. Students will explore alt text generation and will compare their own alt text with alt text generated by an AI.	• alttext.in
AI and Music Generation	In this project, students will delve into the intersection of artificial intelligence and music. They will explore various AI tools used in music generation and consider the ethical implications of using AI to generate music.	• Loudly (requires free account) • Soundraw (requires free account)
AI Prompt Injection Exploration	In this project, students explore how images can be used to override the prompt instructions in an AI language model.	• Gemini