JUNIOR CODERZ

AI Projects Pack

10 fun, beginner-friendly artificial intelligence projects for kids — sorted by age, with step-by-step guides and starter code.

Ages 8 – 15+

Welcome, Young Creators!

Building with artificial intelligence used to be something only scientists could do. Not anymore. Inside this pack are 10 projects that let kids create their own chatbots, train computers to recognise things, and build smart games — many without writing a single line of code.

The projects are sorted by age, so you can find the right starting point. Younger children begin with fun, no-code tools; older kids and teens move on to real coding challenges using Python.

How to use this pack

1. Pick any project that excites your child — you don't have to go in order.
2. Read "What it is" and "What kids learn" together.
3. Gather the simple tools listed, then follow the steps.
4. For coding projects, type the starter code and then change it to make it your own!
5. Always explore AI tools with an adult, and remember: AI can make mistakes.

AGES 8 – 12 · NO-CODE, JUST WONDER

Your First AI Projects

1. AI Chatbot

AGE 8–12 · NO CODE

WHAT IT IS

Build a simple chatbot that can answer questions, tell jokes, or chat about a favourite topic, using easy kid-friendly tools.

WHAT KIDS LEARN

How computers understand language, and how to give clear instructions so a machine responds the right way.

TOOLS YOU'LL NEED

A kid-safe chatbot builder (used with an adult) and a few questions to test it with.

STEP BY STEP

1. Choose a topic your chatbot will talk about (animals, space, jokes).
2. Write 5–10 questions a friend might ask about that topic.
3. Type a friendly answer for each question.
4. Test it — ask your own questions and see how it replies.
5. Improve the answers that felt confusing.

2. AI Story Generator

AGE 8–12 · NO CODE

WHAT IT IS

Type a few ideas — characters, a setting, a problem — and use an AI tool to help create a fun, original story.

WHAT KIDS LEARN

How AI works with human imagination, and why their own creative ideas are still the most important part.

TOOLS YOU'LL NEED

A kid-safe AI writing tool (with an adult) and a notebook for ideas.

STEP BY STEP

1. Invent a main character and give them a name.
2. Choose a setting (a castle, a spaceship, a jungle).
3. Add a problem the character must solve.
4. Ask the AI to help write the story using your ideas.
5. Read it, then rewrite the parts you'd like to change.

3. AI Art Creator

AGE 8–12 · NO CODE

WHAT IT IS

Turn words into pictures using a safe AI art tool — designing characters, scenes, or wild imaginary creatures.

WHAT KIDS LEARN

How AI "understands" descriptions, and how small changes in their words change the final artwork.

TOOLS YOU'LL NEED

A kid-safe AI image tool (with an adult).

STEP BY STEP

1. Imagine something fun — "a purple dragon reading a book."
2. Describe it in one clear sentence.
3. Generate the picture and look closely at the result.
4. Add more detail to your description and try again.
5. Compare your pictures — which words made the biggest difference?

AGES 13 – 15 · A LITTLE LOGIC, REAL RESULTS

Level-Up AI Projects

4. AI Quiz Generator

AGE 13–15

WHAT IT IS

Build a tool that creates quiz questions on any topic — perfect for studying or challenging friends.

WHAT KIDS LEARN

How AI organises information and generates content, plus the basics of designing something other people will use.

TOOLS YOU'LL NEED

A kid-safe AI tool and a topic you know well.

STEP BY STEP

1. Pick a subject (planets, history, your favourite game).
2. Ask the AI to create 5 multiple-choice questions.
3. Check every answer is correct — fix any mistakes.
4. Test the quiz on a friend or family member.
5. Add a scoring rule (1 point per correct answer).

5. AI Homework Helper

AGE 13–15

WHAT IT IS

Design a smart helper that explains tricky topics in simple words — while learning to use AI honestly, as a guide rather than a shortcut.

WHAT KIDS LEARN

How AI can support learning, and the difference between understanding an answer and just copying one.

TOOLS YOU'LL NEED

A kid-safe AI tool and a real homework question to practise with.

STEP BY STEP

1. Take a topic you find difficult.
2. Ask the AI to explain it "like I'm 10 years old."
3. Ask it for an example, then try a similar problem yourself.
4. Check the explanation against your textbook or teacher.
5. Write the idea in your own words to prove you understand it.

6. AI Voice Assistant

AGE 13–15

WHAT IT IS

Create a basic voice assistant that can answer questions, set reminders, or play music on command.

WHAT KIDS LEARN

How machines turn speech into actions, and how voice technology like Siri and Alexa really works.

TOOLS YOU'LL NEED

A block-based or beginner voice-assistant tool (with an adult).

STEP BY STEP

1. List 3 commands your assistant should understand.
2. Decide what it should say or do for each one.
3. Build the rules: "if the user says X, then do Y."
4. Test by speaking the commands out loud.
5. Add one more command to make it smarter.

AGES 15+ · REAL CODE, REAL AI

Python AI Challenges

7. AI-Powered Game Character

AGE 15+ · PYTHON

WHAT IT IS

Code a game character that "thinks" — reacting to the player and making its own simple decisions.

WHAT KIDS LEARN

How AI is used in real games, and how to combine coding with creative game design.

STARTER CODE

```
# A simple "thinking" game character.
# It decides what to do based on the situation.
import random

def character_decision(distance_to_player, health):
    if health < 30:
        return "Run away and hide!"
    if distance_to_player < 3:
        return "Attack the player!"
    elif distance_to_player < 8:
        return "Move closer and watch."
    else:
        return random.choice(["Patrol", "Wait", "Look around"])

print(character_decision(distance_to_player=2, health=80))
print(character_decision(distance_to_player=10, health=80))
print(character_decision(distance_to_player=2, health=20))
```

8. AI Weather Predictor

AGE 15+ · PYTHON

WHAT IT IS

Build a program that looks at past weather data and predicts what might happen next.

WHAT KIDS LEARN

How AI finds patterns in data to make predictions — the same idea behind real forecasting and data science.

STARTER CODE

```
# Predict tomorrow's temperature from the last few days.
# Install once:  pip install scikit-learn
from sklearn.linear_model import LinearRegression

days  = [[1], [2], [3], [4], [5]]   # day number
temps = [30, 31, 33, 34, 36]        # temperature that day

model = LinearRegression()
model.fit(days, temps)

prediction = model.predict([[6]])   # predict day 6
print("Predicted temperature:", round(prediction[0], 1), "degrees")
```

9. AI Robot Challenge

AGE 15+ · PYTHON

WHAT IT IS

Program a robot (real or virtual) to complete tasks like following a path or sorting objects.

WHAT KIDS LEARN

How code controls machines in the real world, blending robotics, logic, and problem-solving.

STARTER CODE

```
# A virtual robot that follows a path on a grid.
position = [0, 0]   # start at [x, y]
commands = ["up", "up", "right", "right", "up"]

for move in commands:
    if move == "up":    position[1] += 1
    elif move == "down":  position[1] -= 1
    elif move == "right": position[0] += 1
    elif move == "left":  position[0] -= 1
    print("Moved", move, "-> position", position)

print("Final position:", position)
```

10. Smart Recommendation System

AGE 15+ · PYTHON

WHAT IT IS

Create a mini version of the system that suggests videos or songs — like the ones used by YouTube and Netflix.

WHAT KIDS LEARN

How AI studies choices to recommend things, and how the apps they use every day actually work.

STARTER CODE

```
# Recommend a show based on what someone already likes.
shows = {
    "Space Heroes": ["action", "space", "kids"],
    "Robot Friends": ["robots", "kids", "comedy"],
    "Galaxy Quest": ["action", "space", "adventure"],
    "Cooking Fun":  ["food", "family"],
}

liked = "Space Heroes"
liked_tags = set(shows[liked])

scores = {}
for title, tags in shows.items():
    if title != liked:
        scores[title] = len(liked_tags.intersection(tags))

best = max(scores, key=scores.get)
print("Because you liked", liked, "we recommend:", best)
```

Ready to Build Something Bigger?

These projects are just the beginning. At Junior Coderz, kids and teens turn curiosity into real, future-ready skills — guided by expert engineer trainers, one fun project at a time.

See how your child responds with a free trial class before you decide.

Book a Free Trial Class

juniorcoderz.com · Ages 6–18 · Live online classes