

# AI Creator

## Robots that Think

### AI Creator:

Learn Advanced AI. Build Smart Robots. Pitch Your Innovation.

The AI revolution is already here, with OpenAI, Tesla, and Google leading the way. The real question is: **will your child be a passive user or a future creator?**

**AI Creator** is a year-long advanced program where students master real-world AI, engineer commercial-grade robots with **The AI Mini**, and pitch startup solutions to real-life problems.

Unlike most courses that focus on prompt engineering, **we explore the science behind AI—covering neural networks, computer vision, and NLP.** Students won't just use AI; they'll understand, control, and create it.

### Information

 41 lessons (1.5 hours each)

 English instruction

 Intermediate to Advanced

 Ages 8–16

### What to Expect



Build and program your own **AI Mini** — a commercial-grade robot used in real-world environments



Explore how real tools like ChatGPT and Tesla Autopilot work under the hood



Build robots that move, talk, & see — all in one system



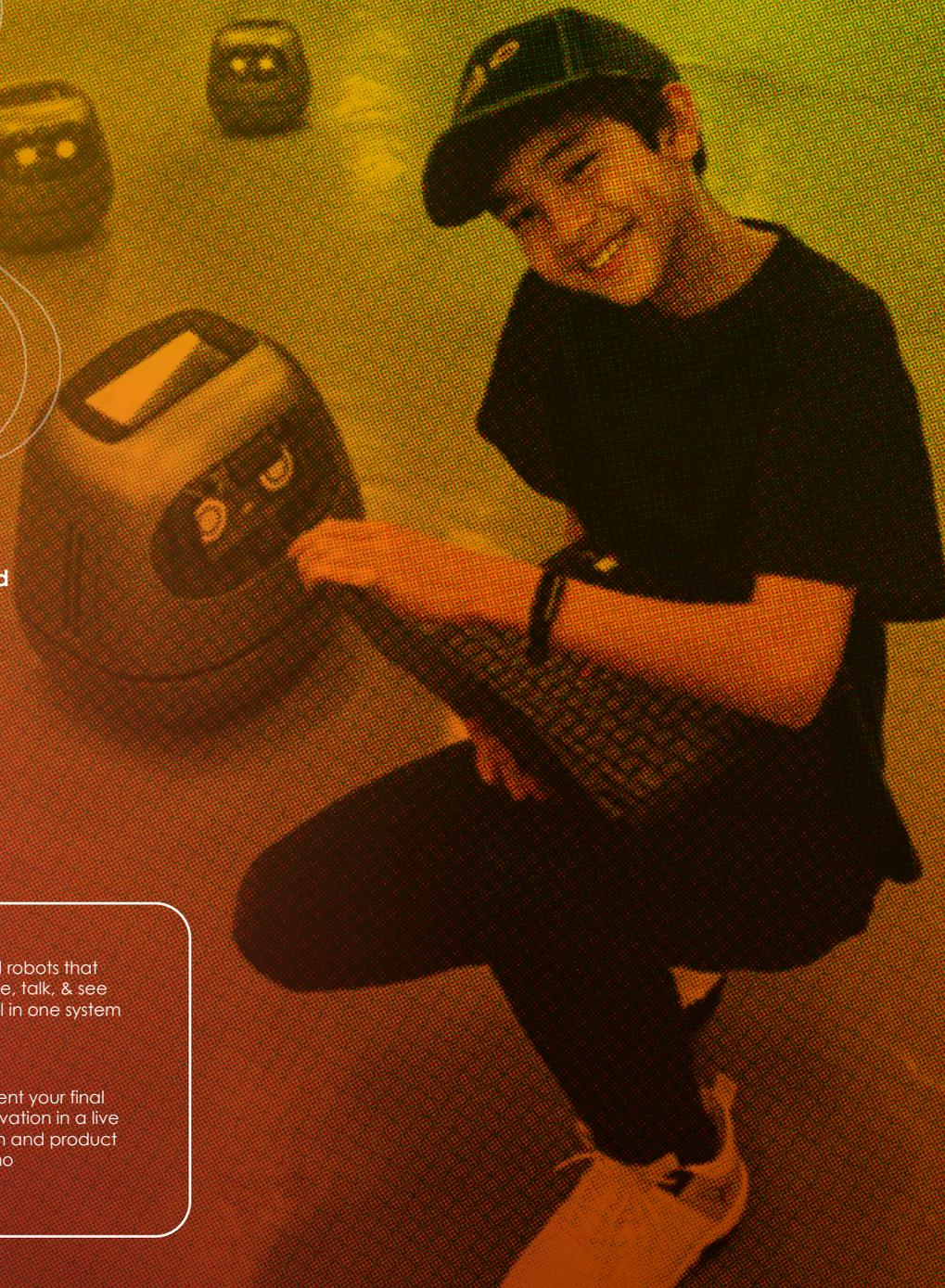
Train AI models in speech, vision, & natural language



Learn the exact tools used by OpenAI, Tesla, & Google



Present your final innovation in a live pitch and product demo



## Python Programming

Build a foundation in Python with real-life applications in maths, science, and computing.

## Python for Robotics

Control The Mini AI using Python to navigate, move, and respond to its environment.

## Voice-Controlled Robot

Train your robot to listen, understand, and act on voice commands.

## Natural Language Processing

Explore how ChatGPT works — and build smart bots that understand language.

## Computer Vision

Give your robot the power to see and respond to the real world.

## Final Project & Demo Day

Put everything together — and pitch your own AI robot like a startup founder.

- Learn Python programming skills using the Google Colab IDE
- Understand fundamental concepts including variables, operators, conditionals, loops, and data structures
- Solve a series of STEM-related coding challenges to practice Python programming
- Finish with a debugging challenge to reinforce problem-solving skills

- Use **Jupyter Notebook** and **The AI Mini library** to control robot motion
- Write functions for movement and delivery routines
- Control speed and direction with **motor parameters**
- Use the **sensor** for distance detection and obstacle avoidance
- Program the robot to **deliver items and return to base**

- Use **Teachable Machine** to train custom speech recognition models
- Replace buttons with **voice commands** for robot actions like "deliver" and "spin"
- Implement **nested voice interactions** for simulated conversations
- Develop a **wakeword system** for selective listening
- Design a voice-based product idea and prototype its core features

- Use Python to **tokenise, clean, and analyse text data**
- Train a **Naive Bayes classifier** for sentiment analysis
- Apply **POS tagging, named entity recognition, & dependency parsing**
- Build a chatbot with **Retrieval-Augmented Generation (RAG)**
- Understand ethical risks like bias, hallucinations, and copyright issues

- Capture images using the robot's built-in camera
- Apply basic image transformations (blur, rotate, edge detect)
- Train a **YOLO object detection model** with a custom dataset
- Deploy the model for live detection and robot responses
- Discuss real-world applications and AI ethics (e.g. surveillance, deepfakes)

- Integrate voice, vision, and motion into a smart robotic system
- Identify a real-world problem and design a robotic solution
- Iterate and improve their prototype through testing
- Prepare a compelling pitch deck and live demo
- Present on Demo Day with confidence and clarity



### Computer Science

- Syntax
- Functions
- Loops
- Data structures
- Logic



### Mathematics & Physics

- Unit conversions
- Formulas in code
- Problem solving



### Robotics

- Sensor integration
- Path planning
- Movement logic



### Engineering

- High-level vs low-level motor control



### Computer Science

- Function writing
- Parameter passing
- Loops



### AI

- Speech recognition
- Keyword triggers
- Wakeword logic



### Communication

- Conversational design
- Input/output modelling



### Design Thinking

- Problem solving through voice-activated products



### AI & Language

- Sentiment analysis
- LLM fundamentals
- POS tagging



### Ethics

- Hallucinations
- Bias
- Intellectual property
- Fairness



### Computer Science

- Text processing and similarity matching



### AI

- Image classification
- Object detection
- Neural networks



### Ethics

- Data bias/modelling
- Surveillance awareness
- AI risks



### Technology

- Model deployment
- Camera integrat



### Entrepreneurship

- Idea validation
- Storytelling
- Product demo



### Tech Integration

- Python + AI + robotics



### Entrepreneurship

- Confidence, clarity, and creativity under pressure