



Adding a coat is a good idea.

The average temperature for the next 40 days will be 10 degrees & will rise for 5 days.

Temperature trend



Meritus AI is a global leader in AI education, and we're thrilled to announce our continued partnership with them for the 4th year in a row. Since 2022, we collaborated with Meritus AI under successful AI & Coding Summer Camps, where young minds have explored the world of artificial intelligence through Meritus AI's exclusive "scratch for AI" platform. This summer, the content is back stronger and better to accommodate the emerging technologies of Artificial Intelligence.



Upon the completion of the number of hours required for each course, participants will receive a STEM.ORG certificate approved by Meritus AI, which will help them as they join the Techmarket in the future.

(8-12 YEARS OLD)

SPARK AI- BEGINNER LEVEL

1 WEEK COURSE (2 HOURS PER DAY)

Before joining this course students should:

- Know how to recognize colors, shapes, directions (like left and right), and simple patterns
- Be able to follow a series of steps to complete a task (like step 1, step 2, step 3...)
- Know how to use a mouse or touchscreen to move and click on items
- Be ready to try simple coding by connecting blocks with help from a teacher

Lesson	Topic	Learning Outcomes
L1	Getting started with AI, Quickdraw	This experiential session provides students with an overview of the ideas and concepts of Artificial Intelligence.
L2	Language Translator	Learn to develop an intelligent Language Translator & understand its real-world applications.
L3	Balloon Burst Game	Learn to code and develop an AI game with the important AI concept: Perception.
L4	Printed Text Recognition	Learn to code and develop an AI program that will read and recognize text using computer vision tools.
L5	Fun filter	Learn to code and develop an AI face filter with human pose detection (clown nose, pirate eye mask, watch for wrist, eagle in the right side of shoulder)
L6	Tracking the face (single face detection)	Learn about perception in AI and develop an AI program that will identify the person and indicate it with a square box.
L7	Object Identification	Learn to code and develop an AI program that will recognize objects. Students will explore and understand image classification using a computer vision tool and how machines require labeled data to learn.
L8	Speech Art	Learn to code and develop a voice-based colour selection program to draw using the mouse pointer (Speech Recognition)
L9	Stroop Effect Game	Learn to code and develop an AI program, and train it using Machine Learning models to simulate how the human brain processes words, colors, patterns, etc., differently.
L10	Impacts of AI	Explore and discuss case studies and various scenarios where AI outperforms humans, and scenarios where it does not.

(8-12 YEARS OLD)

GLIDE AI- INTERMEDIATE LEVEL

1 WEEK COURSE (2 HOURS PER DAY)

Before joining this course students should:

- Have used block coding before (like Scratch, Blockly, or Code.org)
- Understand basic ideas like repeating actions (loops) and making choices (if this, then that)
- Know how to build simple programs that react to clicks, sounds, or button presses
- Be able to connect blocks to create complete mini-games or apps

Lesson	Topic	Learning Outcomes
L1	Recap & Sentimental analysis(speech)	This experiential session will provide the fundamentals of AI and create a program will recognize the speech and tell the sentiments like pos,neg and neutral(sentimental analysis extensions)
L2	Home Automation	This experiential session will provide the fundamentals of AI and create a program to automate simple household tasks. Will explore AI concepts: machine learning, perceptual processing, and text classification.
L3	Identify Sign Language	Explore an important AI concept: computer vision and machine learning.
L4	Face Filter	Learn and explore an important AI concept: machine learning through image recognition and classification using computer vision.
L5	Flappy bird	Create a program using pose detection extension the flappy bird will follow the nose of the player(human pose detection extensions)
L6	AI Calculator Using MIT App Inventor	Create an AI program that will perform voice-driven basic arithmetic operations and calculations.
L7	Language Translator Using MIT App Inventor	Develop an AI Language Translator project to explore its applications and societal impact.
L8	Chatbot Using MIT App Inventor	Work on a conversational agent project to explore how supervised learning functions on current conversational agents such as Alexa, Siri, etc.
L9	Face Recognition Using MIT App Inventor	Develop an AI image classification program that will recognize and identify different human faces based on the data provided by the user.
L10	AI Search Using MIT App Inventor	Create a Machine Learning model that recognizes letters from the English alphabet by testing and training it.

(8-12 YEARS OLD)

IGNITE AI - ADVANCED LEVEL

1 WEEK COURSE (2 HOURS PER DAY)

Before joining this course students should:

- Be comfortable making multi-screen or multi-step projects using coding blocks
- Understand that AI can learn from examples (like showing pictures to help the program learn)
- Have used camera or microphone blocks in Scratch or App Inventor
- Know how to organize projects with logic (like if-something-happens → do this)

Note: If students PASS this course, they qualify to join the courses of the older age group.

Lesson	Topic	Learning Outcomes
L1	Pose net vision estimation using S4AIWS	Learn to detect human poses using vision-based AI and respond to physical movements.
L2	Weather bot using S4AIWS	Understand data representation and reasoning to build an AI-powered weather assistant.
L3	Secret code using ML4Kids	Explore sound detection and machine learning to decode and interpret audio signals.
L4	Fruits identification using ML4kids	Use computer vision and ML to classify images and understand AI's societal impact.
L5	Pac-Man game using S4AIWS	Apply AI reasoning and ML to build an interactive game with real-world AI concepts.
L6	Rock Paper Scissors using MIT App Inventor	Develop a game using image recognition to classify hand gestures and trigger game responses.
L7	Identify part of the day using MIT App Inventor	Implement speech recognition to detect spoken clues and match them to different times of day.
L8	Intelligent assistant using MIT App Inventor	Create a voice-based assistant using natural language processing for simple conversations.
L9	AI messenger using MIT App Inventor	Combine motion sensing and voice input to develop a smart AI-powered messaging application.
L10	Visual image classifier using MIT App Inventor	Train an AI model to classify real-world objects using vision and machine learning principles.

(13-17 YEARS OLD)

LAUNCH PYTHON - LEVEL I

2 WEEK COURSE (2 HOURS PER DAY)

Before joining this course students should:

- Understand math ideas like adding, comparing numbers, and finding patterns
- Be able to follow written steps to solve problems
- Know how to type short lines of text (code) on a keyboard
- Be ready to test their code and fix simple mistakes

Lesson	Topic	Learning Outcomes
L1	Python Installation & Introduction	Understand how to set up Python and explore its basic features and environment.
L2	Data Types in Python	Identify and use Python's built-in data types effectively in programs.
L3	Variables - Declaration and Use	Learn how to declare, initialize, and manipulate variables in Python.
L4	Keywords and Identifiers	Recognize reserved keywords and define valid identifiers for naming variables and functions.
L5	Typecasting in Python	Convert data from one type to another using explicit and implicit casting.
L6	Operators in Python	Use arithmetic, relational, logical, and bitwise operators to perform operations.
L7	Capstone Project (Simple Calculator)	Use operators to create a working calculator that can perform basic operations. Understand how to take user input, display output, and control the program flow. Learn to handle simple errors and make the calculator user-friendly.
L8	Taking User Input (Console) and Conditional Statements - if, elif, else	Accept user input and implement decision-making logic using conditional statements.
L9	Loops in Python and String Manipulation	Implement loops to repeat actions and apply basic string operations.
L10	Capstone Project (RPS Game)	Create programs using conditional statements and loops effectively to implement a playable Rock-Paper-Scissors game.
L11	Python Collections - Part 1	Understand lists, tuples, sets, and dictionaries and perform operations on them.

L12	Python Collections - Part 2	Understand lists, tuples, sets, and dictionaries and perform operations on them.
L13	Capstone Project(Attendance Management System)	Apply programming concepts to build a real-world application managing attendance.
L14	File and Exception Handling in Python	Read and write files and handle runtime errors using try-except blocks.
L15	Built-in and User-Defined Functions	Create and invoke custom functions and utilize Python's built-in functions.
L16	Lambda Functions and Importing Python Modules	Use Lambda functions and import the modules.
L17	Classes and Objects	Implement object-oriented principles using classes, objects, methods, and attributes.
L18	Python Iterators, Scope and Packages & Capstone Project(Word_counter)	Build a program that processes a text file, counts words, and generates a report file.
L19	Modules	Learn how to create, import, and use custom Python modules to organize and reuse code efficiently.
L20	Basics of working with data	Understand foundational concepts of data handling. Learn how to access, organize, and perform simple operations on data in Python.

Students must complete 2 weeks to complete the course and obtain the certificate.

(13-17 YEARS OLD)

BUILD PYTHON – LEVEL 2

2 WEEK COURSE (2 HOURS PER DAY)

Before joining this course students should:

- Know how to write Python programs using variables, if-else choices, loops, and user input
- Have used Python libraries (like import something) in small projects
- Be able to read text from files or work with lists and strings
- Understand how programs use data to make decisions

Lesson	Topics	Learning Outcomes
L1	Introduction to AI	Understand the fundamentals and real-world applications of Artificial Intelligence.
L2	Perception in AI – Introduction	Learn how AI perceives data from the environment using sensors or inputs.
L3	Machine Perception – Human vs AI	Compare human perception with AI perception and explore how machines 'see'.
L4	Face Detection using Haar Cascades (OpenCV)	Detect human faces in images using OpenCV's Haar Cascade classifier.
L5	Face Mask Detection using OpenCV	Train and use a model to identify masked and unmasked faces from video or images.
L6	Face Recognition using Google Colab	Recognize and differentiate between faces using Google Colab and OpenCV libraries.
L7	Capstone Project: Emotion Recognizer using FER + DeepFace	Create a system that detects and classifies emotions using FER and DeepFace libraries.
L8	NLP – Introduction	Explore how machines understand and process human language.
L9	Components of NLP	Identify key components like Tokenization, Stemming, Lemmatization, and POS tagging.

L10	Automated Chatbot using List and Corpus Trainer - Part 1	Build a basic chatbot using Python lists and a small corpus for training.
L11	Automated Chatbot using List and Corpus Trainer - Part 2	Build a basic chatbot using Python lists and a small corpus for training.
L12	Virtual Assistant Chatbot - Part 1	Develop a smart chatbot that responds to user queries using NLP.
L13	Virtual Assistant Chatbot - Part 2	Develop a smart chatbot that responds to user queries using NLP.
L14	Introduction to LLMs and Transformers - Part 1	Understand the role of LLMs and Transformer architectures in language models.
L15	Introduction to LLMs and Transformers - Part 2	Understand the role of LLMs and Transformer architectures in language models.
L16	Text Mining and Analysis - Part 1	Perform basic text preprocessing and extract useful insights from textual data.
L17	Text Mining and Analysis - Part 2	Perform basic text preprocessing and extract useful insights from textual data.
L18	Problem Solving using NLP Pipeline - Part 1	Design and implement a full NLP pipeline for solving real-world text problems.
L19	Problem Solving using NLP Pipeline - Part 2	Design and implement a full NLP pipeline for solving real-world text problems.
L20	Capstone Project: Emotion Analyzer Chatbot	Create a chatbot that analyzes user emotions from text using NLP techniques.

Students must complete 2 weeks to complete the course and obtain the certificate.

(13-17 YEARS OLD)

BUILD PYTHON – LEVEL 2

2 WEEK COURSE (2 HOURS PER DAY)

Before joining this course students should:

- Be confident writing full Python programs using modules, functions, and external libraries
- Know what training data and predictions are, and how AI models use them
- Have worked with data in Python using things like lists, dictionaries, or CSV files
- Understand how to build a program that takes input, processes it, and gives smart results

Lesson	Topics	Learning Outcomes
L1	Introduction to Machine Learning Part 1	Define Machine Learning and understand its types (Supervised, Unsupervised, Reinforcement).
L2	Introduction to Machine Learning Part 2	Define Machine Learning and understand its types (Supervised, Unsupervised, Reinforcement).
L3	Introduction to Deep Learning Part 1	Define Deep Learning and explore how neural networks learn complex patterns from data.
L4	Introduction to Deep Learning Part 2	Define Deep Learning and explore how neural networks learn complex patterns from data.
L5	Knowledge Representation – Part 1	Define Knowledge Representation (KR) and Knowledge Representation and Reasoning (KRR) in machines.
L6	Knowledge Representation – Part 2	Understand the Knowledge Representation cycle and its role in intelligent decision-making.
L7	Inference and Reasoning – Part 1	Understand the fundamental principles of logic-based Knowledge Representation and inference.
L8	Inference and Reasoning – Part 2	Apply logical reasoning techniques (forward and backward chaining) for AI problem-solving.
L9	Expert Systems – Part 1	Define Expert Systems and identify key components like knowledge base and inference engine.
L10	Expert Systems – Part 2	Build a basic rule-based expert system and understand how it simulates human expertise.
L11	Reasoning in Machine Learning – Part 1	Understand how reasoning is integrated into machine learning to explain predictions and decisions.

L12	Reasoning in Machine Learning – Part 2	Explore Explainable AI (XAI) and the importance of transparency in ML-based reasoning.
L13	Cognitive Architecture – Part 1	Understand what cognitive architectures are and how they simulate human-like intelligence in AI systems.
L14	Cognitive Architecture – Part 2	Explore examples like ACT-R and SOAR to understand AI cognitive modeling and learning behavior.
L15	Explainable AI – Part 1	Examine the need for explainability in AI and techniques used to interpret model outputs.
L16	Explainable AI – Part 2	Analyze real-world case studies where explainability improves trust and fairness in AI systems.
L17	Knowledge Graphs	Understand the structure and use of knowledge graphs for organizing and connecting data in AI.
L18	Image (Digit) Prediction – Program	Implement a digit recognition model using Python and understand the basics of image-based AI tasks.
L19	Merits & Demerits of AI	Evaluate the advantages and limitations of AI in society, education, healthcare, and industry.
L20	AI Life Cycle	Explore the complete AI lifecycle from problem definition to deployment and maintenance of models.

Students must complete 2 weeks to complete the course and obtain the certificate.

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