AIClub SCHOOLS

Welcome to AIClub! Let's get you started on your journey.

ABOUT US

Embark on an exciting journey to learn AI with AIClub, a leading institute in the USA.

Our curriculums have been thoughtfully designed by PhDs in computer science who possess several years of industry experience.

By enrolling in our courses, you can rest assured that you will receive an exceptional education in AI that is relevant to today's industry needs.

Join us at AIClub and unlock the potential of AI!

ABOUT US

Embark on an exciting journey to teach AI with AIClub, a leading institute in the USA.

Our curriculums have been thoughtfully designed by PhDs in computer science who possess several years of industry experience.

AIClub provides teacher training, equipping educators to seamlessly integrate AI education into their classrooms.

The future is now. Empower your students with AI-Literacy!

ABOUT US

AIClub

Bring Artificial Intelligence to your classroom!

1

Find the curriculum you need

or get a 15 min free consultation!

2

Want a teacher training Session?

We got you covered!

3

Start teaching!

ABOUT US

Why AI education?

AI is one of the most important things humanity is working on. It is more profound than, I dunno, electricity or fire.

Sundar Pichai, CEO of Google

ABOUT US

AIClub

Who is AIClub?

Ph.Ds engineers from famous western universities and IIT.

Dr.Nisha Talagala
Founder & CEO

Dr.Amit Gupta
Head of Products

Dr.Sindhu Ghanta
Head of Machine Learning

Berkeley
UNIVERSITY OF CALIFORNIA

WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

Northeastern University

भारतीय प्रौद्योगिकी संस्थान दिल्ली
Indian Institute of Technology Delhi

ABOUT US

AIClub

Who is AIClub?

Ph.Ds engineers from famous western universities and IIT.

3

companies founded

3

successful acquisitions

$1B+

in exit value

CURRICULUM

AIClub

What does the AIClub curriculum include?

Curriculum includes concepts, code, hands-on activities and projects.

A teacher dashboard, where teachers can monitor exactly what each student is building on their console

Two individual exams, passing which the student receives a certificate and grade

AIClub

Curriculum for all ages

Elementary

Middle School

High School

AIClub

Why choose AIClub?

Enrolling in our AI course will provide essential **AI and Python** concepts that are compliant with CBSE standards

Completing the exam will result in a valuable certification and open up various opportunities in the field of AI.

Our course will help your child understand how AI is applied in different industries and domains.

Understanding AI applications can lead to consideration of high-impact careers of the future.

The rise of AI has created a growing demand for skilled professionals in the field.

Our course will equip your child with the necessary knowledge and skills to pursue degrees in high-paying disciplines.

AIClub

Trusted by Renowned Institutions

DUC AD VERITATEM

NAV KRISHNA VALLEY SCHOOL

Gateway to Learning
Gateway College

India Community Center

6crickets Best of 2020

Crack the Wellness Code
ICC Program

AI4Science

DPIE
Dublin Partners In Education

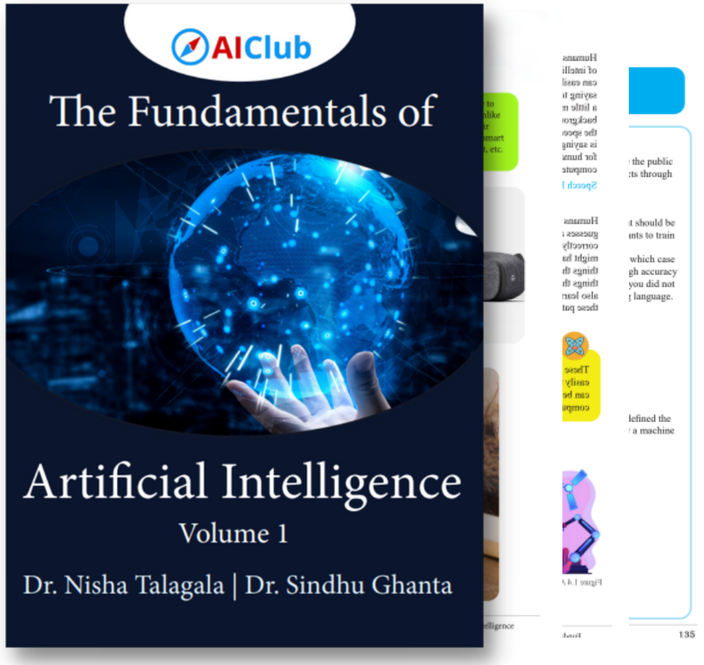
EPIC GENERATION

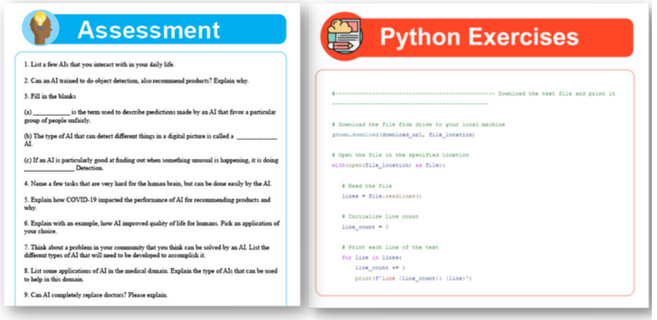
DIGITAL EDUCATE

NEW YORK STATE STEP
SCIENCE & TECHNOLOGY ENTRY PROGRAM
preparing science, technology & licensed professionals since 1986

AIClub Textbook

Designed for middle school and high school students





amazon

This textbook covers the fundamentals of AI at a level of math and coding that matches middle school and high school capabilities. Following AIClub's 4C's approach to AI Literacy, this textbook covers core Concepts of AI. It includes interactive activities that combine theory and practical use.

OTHER AICLUB OFFERINGS

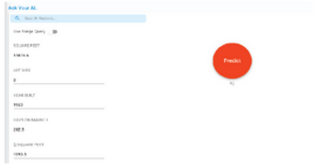
Online Activities

1. Regression AI to Predict House Prices

In this activity, we will do a simple exercise to predict house prices in any given neighborhood by downloading the latest public data available. Please go to https://aiclub.world/activity-house-prices to start this activity!

In this activity, we will learn
- Data collection to build an AI
- Building an AI to solve a Regression problem
- Evaluating the performance of a regression problem

This activity has an interactive component where students will enter different values for features such as the number of bedrooms and square footage of a house and the AI will predict the price of the house.



To do the interactive activity, you will need a computer with a chrome browser.

Unplugged Activities

1. Visual Linear Regression

In this activity, students will draw a linear regression model and make predictions. They will also calculate the error of their linear regression model.

Activity:
Using Table 1, plot the points on a piece of paper. Let x-axis be the Feature and y-axis be the Label. Draw a line that you believe best fits the trend in data.

Feature	Label
4	7
6	8
1	5.5
5	7.5
9	9.5
2	6
12	11
7	8.5

Fill the table with predictions based on the line you have drawn.

Compare the predictions with the True values of the Label provided in the Table and calculate the RMSE and MAE values. This is the performance metric of the linear regression model created from visual inspection of this simple data.

Feature	Prediction	True Label
3		6.5
8		9
2		6
15		12.5
4		7

Assessment

8. If an AI reports a validation accuracy of 85% and the training dataset has 500 samples, where 20% of the samples are kept aside for validation, how many samples did the AI predict correctly to achieve the accuracy of 85%?

9. A training dataset contains 3 categories in its label column: happy, neutral and sad. Would it be possible to calculate the confusion matrix? How many rows and columns would the matrix have? Please explain.

10. If the label column of a dataset has 2 categories, where one category has 500 examples and the other one has 100 examples, how would you measure the performance of the AI? Please explain.

11. Explain the term skew in the context of a training dataset.

12. Calculate the accuracy and confusion matrix for the below table.

Gender	Feeling	Mood	Prediction
Male	jumping with joy	Happy	Happy
Female	headache	Sad	Sad
Female	holidays, yay!	Happy	Sad

13. Why is classification a type of supervised learning? Please explain.

14. In a binary classification problem, which of the following terms indicate correct predictions by the AI (a) True Positive (b) True Negative (c) False Positive (d) False Negative

15. How does the Confusion Matrix provide more insight into the behavior of the AI?

Python Exercises

Python code is provided in this module to help students get hands-on experience interacting with concepts covered in the chapter. The code snippets are kept simple and self-contained. All the code included in this book is available in a GitHub repository https://github.com/pyxeda/MiddleSchoolCurriculum/tree/master/Volume1.

A link containing the individual code snippets that can be opened in Google Colaboratory are also provided with each piece of code. When you go to the python notebook links provided with each code snippet, you should see an option to open in Colaboratory like the screenshot below.

If you do not see this option, you might need to install the Google Colaboratory plugin in your browser.

Teachers Corner

Core Concepts

In this chapter, students explore data - a critical component of any AI. The core concepts that students should appreciate are:
- Data is all around us
- Data comes in many different types - such as text, audio, video, numbers, etc.
- Understanding and selecting the right data is a critical part of building a good AI. Data analysis (where humans or other programs explore the data) is an important step before data is fed into an AI.
- Data needs to be transformed before it can be used in an AI. AIs only read numbers, so every type of data eventually becomes a series of numbers.
- AIs can understand complex data, but for real-world problems to be solved, humans need to understand at least part of the data. This is where data storytelling comes into play.
- Data analysis requires statistics and visualization.

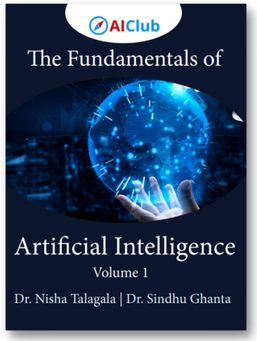
Grade Level Alignment

The core concepts of data and its role in the AI life cycle are accessible to all grade levels in Middle School and High School. The data analysis section is more suitable for grades 7 and above. Students in grades 10 and above should already know the basic statistics - so teachers can focus on the application of these in Data Science.

The chapter also contains a series of Python examples. These are suitable for students with a working knowledge of Python, independent of grade level.

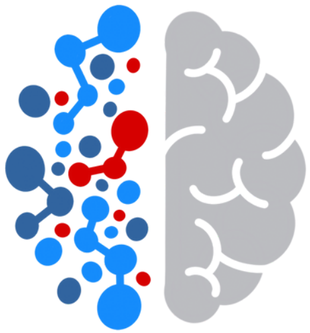
Some tips for discussions when teaching this chapter:

- Depending on your focus, you can decide whether to integrate the coding elements or not. For example - if you are focusing on STEM overviews or AI use in Science, then the coding exercises may not be necessary. If you are teaching AI as part of a Computer Science course, then we recommend the coding exercises.
- The coding exercises in this chapter are all in Python. They require the students to understand the following Python concepts
  - Input/Output
  - Modules



Many exercises (unplugged, online, coding, no-code) in each chapter help students build hands-on AI Capability. A dedicated **Teachers Corner** to assist teachers with assessments and delivery of the course.

Sample Curriculums



SAMPLE CURRICULUMS

AIClub

We have a diverse range of curricula for grades 3-12. View some of our sample curriculums below.

Introductary AI Curriculum

- Comprehensive AI Curriculum covering AI Introduction, Ethics, Machine Learning, and more.
- Topics include Climate Change & AI, Self-Driving Cars, Image Processing, Ethics, Bias, Mars AI.
- Engaging Activities: Emotion Detection, GAN Art, Agriculture AI, Object Detection, and more.
- Exploration of AI in Sentiment Analysis, ChatGPT, AI's Real-World Applications.
- Projects: Image Creation, Classification, and Project Presentation.

AIClub

We have a diverse range of curricula for grades 3-12. View some of our sample curriculums below.

Python Curriculum

- Learn Python basics: data structures, logic flows (loops, conditionals).
- Build a powerful chatbot using Python skills.
- Apply AI to enhance the chatbot's intelligence.
- Learn tensorflow to create powerful deep learning algorithms.
- Create Convolutional Neural Network (CNN) architectures for images.
- Create transformer based large language models (LLMs) for natural language processing (NLP) applications.
- Learn to use the huggingface library for NLP applications.
- Time series forecasting using Auto-Regressive Integrated Moving Average (ARIMA), long short-term memory (LSTM) and DeepAR neural networks.

AIClub

We have a diverse range of curricula for grades 3-12. View some of our sample curriculums below.

AI Curriculum

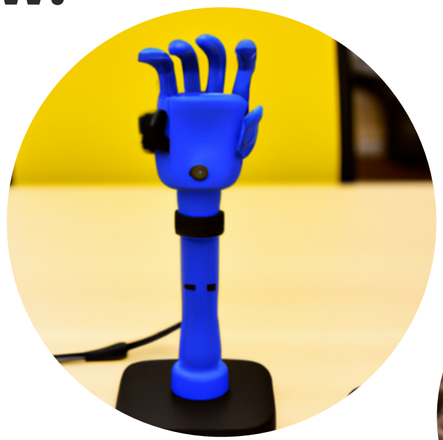
- Explore Data's Role in AI-driven Future: Data analysis, storytelling, and data's impact on AI.
- Build 3 AIs from scratch with data training.
- Create AIs predicting house prices, math operation types, and more.
- Understand regression, metrics, statistics, and data visualization.
- Engage with real-world examples and storytelling techniques.
- Develop advanced data visualization skills with Matplotlib.
- Project: Choose dataset, build AI, craft data story, evaluate AI performance.

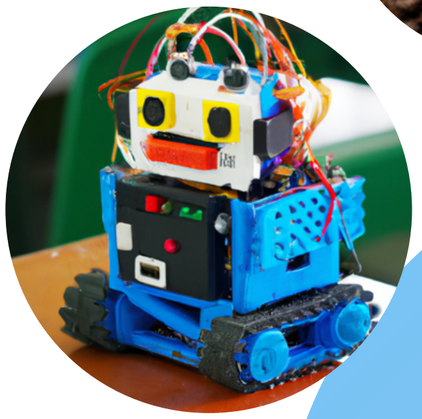
AIClub

We have a diverse range of curricula for grades 3-12. View some of our sample curriculums below.

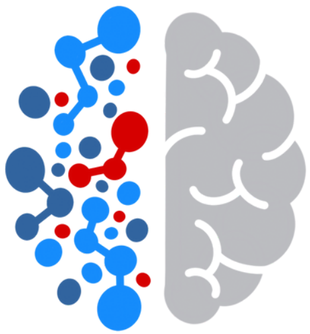
Robotics/IoT Curriculum

- Grasp Robotics and IoT: Sensors, programming, and hardware integration.
- Apply Python skills to hands-on hardware projects.
- Learn about IoT devices, sensors, and their applications.
- Explore ESP32, pins, and network protocols.
- Dive into MicroPython's distinctions from regular Python.
- Engage in activities: Blinking LED, controlling servo motor via ESP32.
- Experience 3D printing and hardware customization.
- Build a functional hand project with attached servo motor.
- Project: Practical showcase and assessment of the working hand.





More from AIClub



AIClub

Student Research Symposium

Our annual Symposium encourages students to submit projects that solve real-world challenges, for a chance to showcase their work to peers, parents and educators. These award-winning innovations touch a variety of areas and fields; space, healthcare, social good, climate change, the fine arts and much more.

www.corp.aiclub.world/aiclub-student-research-symposiums

AIClub

Webinars

Free webinars for educators, students and parents.

Free professional development sessions for teachers

Teachers receive a PD certificate and the skills needed to stay ahead of the curve.

Free AI-based webinars on a variety of topics

Interactive and activity-based webinars that explore AI in the real world!

AIClub

Navigator

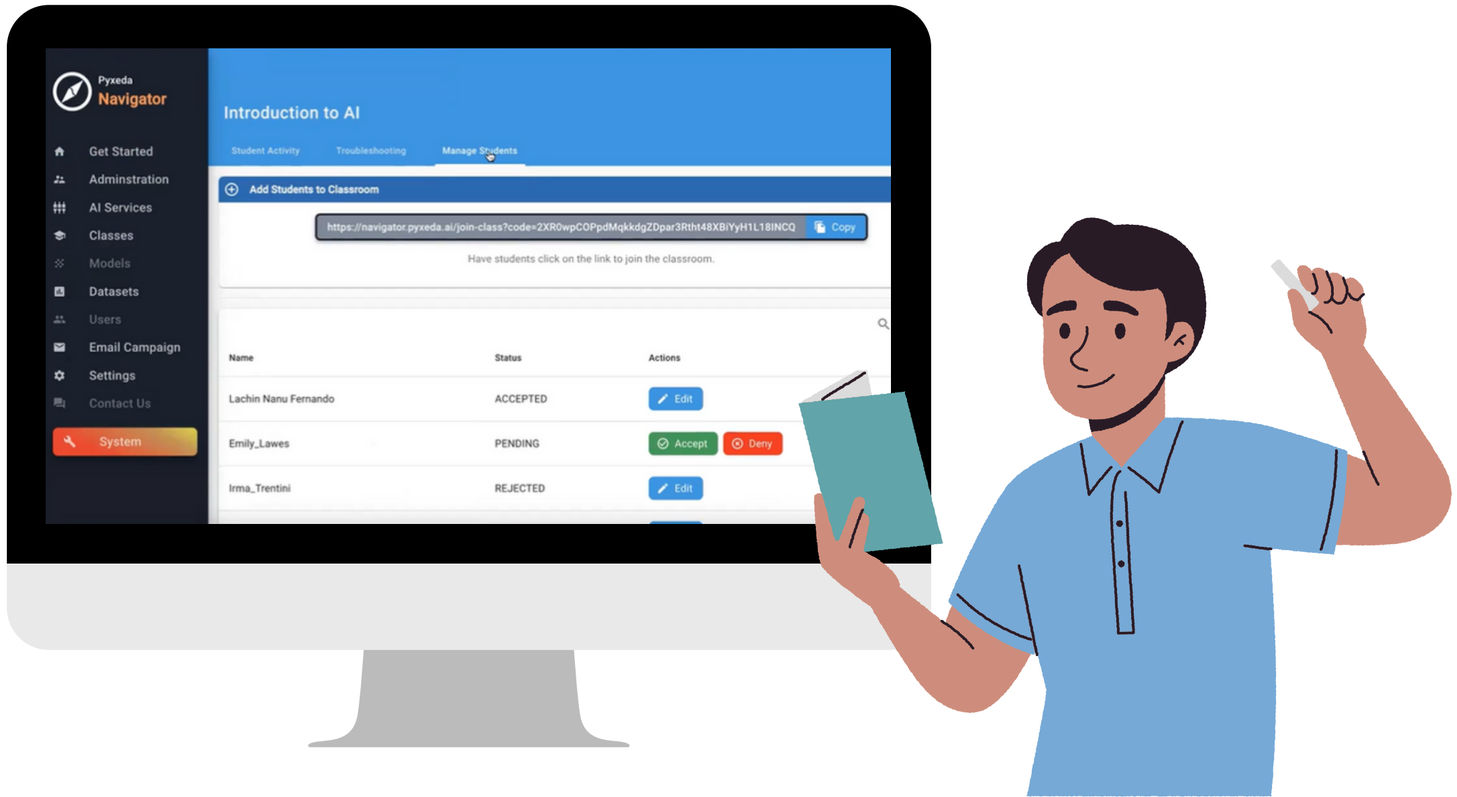
AIClub created Navigator, a software that allows kids to transition to professional coding platforms in an easy-to-understand manner.

- No coding or math prerequisites required
- Students get to build AIs in their first class
- Create custom-made AI projects on any field

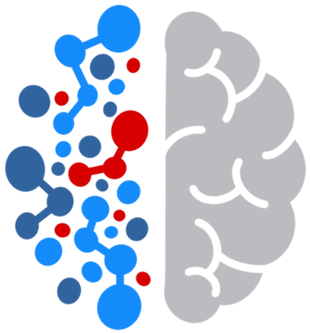
AIClub

Teacher Dashboard

A tool that makes teaching AI efficient, by providing real-time visibility on classroom progress. Through the dashboard, teachers can view the AI-building progress of each student in a single view that shows the summary and stage of their work in the class.



Resources



AIClub Elementary Books

Unleash your curiosity.. AI adventures await, no matter your age!

Unlock the world of Artificial Intelligence for elementary students. Each book explores fundamental AI concepts and real-world applications, from space exploration to healthcare and the environment. Plus, exciting activities at the end of each book test the reader's newfound knowledge!

AIClub Gym

Free AI activities for K-12!

13 AI-based activities available to try out!
Create AI art, talk to a chatbot or have an AI classify images!

Chai the AI Bot

Ask anything from the AIClub textbook

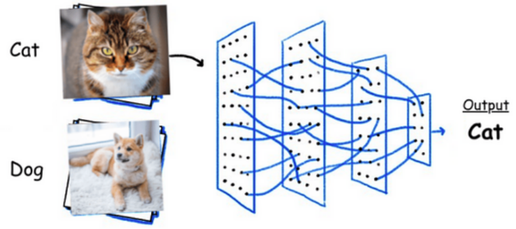


Image Classification

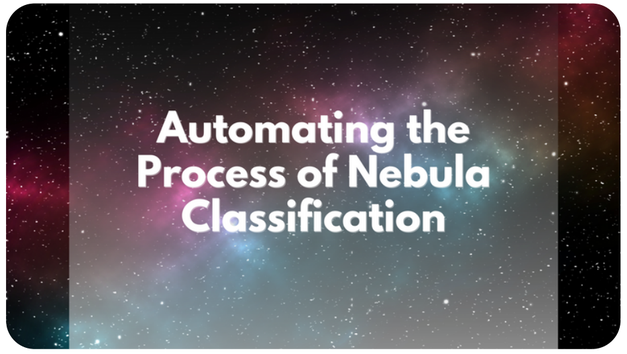
Labeling with Image Classification

my.aiclub.world/ai_gym

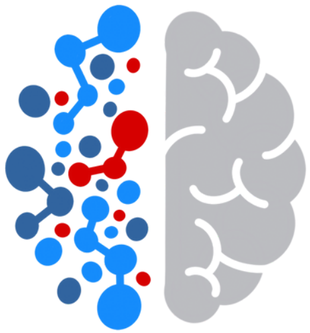
AIClub

Custom AI Projects

Transform inspiration into reality! Build your own AIs.



Get started



GET STARTED

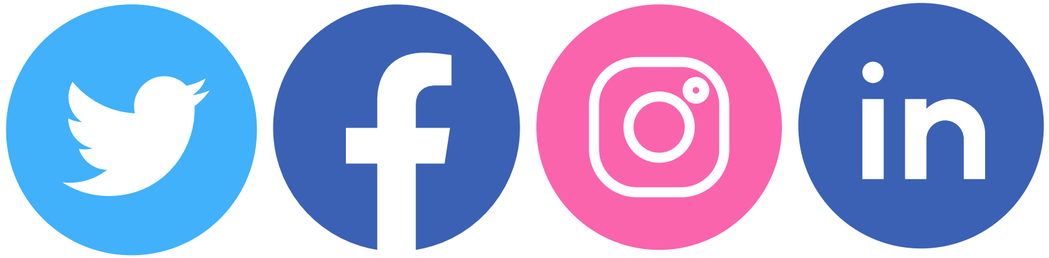
AIClub

Start teaching AI

1. Drop us an email with your requirement **OR** set up a free consultation with us.
2. We'll send you a proposal with rates
3. Once approved, we'll start training you and providing resources
4. Student accounts will be set up
5. You're ready to go!

Contact us

info@pyxeda.ai



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