ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Complete High School Curriculum

"Preparing Tomorrow's Innovators Today!"

Why Choose Our Comprehensive AI Program?

Complete Learning Journey

From AI basics to cutting-edge applications, students master the full spectrum of artificial intelligence technologies shaping our future.

Hands-On Python Coding

Real datasets, interactive projects, and practical coding exercises that bring AI concepts to life. Students build actual AI models and applications.

Ethics-First Approach

Teaching responsible AI use, bias awareness, and ethical decision-making. Students learn to be thoughtful creators and consumers of AI technology.

Engaging & Interactive

Games, debates, role-playing, and creative projects make learning enjoyable while building critical thinking skills.

COMPREHENSIVE CURRICULUM MODULES

MODULE 1: AI FUNDAMENTALS & ETHICS

Understanding AI Basics - Current landscape, AI types, applications

How AI Works - Data, algorithms, supervised/unsupervised learning

AI Ethics & Society - Fairness, accountability, transparency

Algorithmic Bias - Real-world examples, mitigation strategies

Privacy & Data Security - Data classification, security practices

AI Governance - Regulations, responsibility, policies

Future of Work - Job impact, human-AI collaboration

Ethical Dilemmas - Autonomous weapons, healthcare, explainable AI

Responsible AI - Critical thinking, informed decision-making

MODULE 2: MACHINE LEARNING MASTERY

What is Machine Learning? - Definitions, types, applications

Data - The ML Fuel - Data types, features, labels, cleaning

Supervised Learning: Regression - Linear regression, predictions

Supervised Learning: Classification - Binary/multi-class, boundaries

Model Training & Evaluation - Train/test splits, overfitting, accuracy

Unsupervised Learning - Clustering, fraud detection patterns

Deep Learning & Neural Networks - Artificial neurons, layers, deep learning

Reinforcement Learning - Trial/error learning, agents

Real-World Applications - Medical imaging, fraud detection

Future of ML - Trends, career paths, next steps

Python Projects:

- Stock Price prediction models • Image classification systems
- Data clustering algorithms • Neural networks • Movie recommendations

MODULE 3: LANGUAGE MODELS & NLP

NLP Basics - Language processing, computer understanding

Large Language Models - Evolution from simple to transformers

Understanding LLMs - Capabilities, fine-tuning, popular models

Prompting Techniques - Basic & advanced prompting strategies

LLM Applications - Content creation, education, coding assistance

Generative AI - GANs, realistic data generation

RAG Systems - Retrieval Augmented Generation pipeline

Ethics & Future - Bias, misinformation, responsible development

Hands-On Projects:

- Learn to build chatbots • Application to check Facts • AI Agents & Learners

MODULE 4: COMPUTER VISION & GENERATIVE AI

Computer Vision - Image interpretation, CNNs, feature detection

Image Recognition - Classification, object detection, applications

Generative AI in Art - Art, music, multimedia creation, ethics

STUDENT LEARNING OUTCOMES

Career Ready

- High-demand AI career skills
- Practical project portfolio
- Industry best practices

Critical Thinking

- AI system evaluation
- Computational thinking
- Bias identification

Technical Skills

- Python AI/ML programming
- Real dataset experience
- Model deployment

Collaboration

- Team project skills
- Technical communication
- Presentation abilities

Digital Literacy

- AI societal impact
- Responsible development
- Digital citizenship

Competitive Edge

- College application boost
- Technical competency
- Advanced preparation

Ready to Launch Into AI?

Email: info@9to12ai.edu **Website:** www.9to12ai.com **Enroll:** www.9to12ai.com/programs

Join Thousands Learning Tomorrow's Skills!

Empowering the next generation with AI knowledge and ethical understanding