Artificial Intelligence & Machine Learning Workshop

By RUSkilled (A unit of Kyrion Technologies Pvt Ltd)

Introduction to the Workshop

Welcome to the Artificial Intelligence & Machine Learning Workshop by Techgyan Technologies. This engaging and informative session is designed to introduce participants to the exciting world of AI, from its history to the latest advancements in technology. Whether you're a complete beginner or looking to refresh your knowledge, this workshop will provide a comprehensive understanding of Artificial Intelligence & Machine Learning and its various subsets, including Machine Learning, Deep Learning, and Generative AI.

Who is This Workshop For?

This workshop is ideal for anyone interested in diving into the world of Artificial Intelligence & Machine Learning, regardless of their prior knowledge. It is particularly beneficial for:

- Students and educators looking to incorporate AI into their learning and teaching methods.
- Professionals from various sectors who want to understand how AI can be applied in their industries.
- Technology enthusiasts eager to learn about current and future AI trends and applications.

Curriculum

Session 1: Welcome & Icebreaker (1 Hour)

- Welcome & Introduction (15 minutes)
    - Brief overview of workshop agenda and objectives.
    - Set the stage for learning and collaboration.
- History of AI & Icebreaker Activity (45 minutes)
    - Alan Turing and the Turing Machine.
    - Evolution of AI and key milestones.
    - The Turing Test and its significance.
    - Participants share examples of AI in their personal/professional lives.
    - Explore examples of AI in daily life (spam filters, recommendations, camera filters, etc.).

Session 2: What is AI & M: and How AI & ML Problem is resolved? (1 Hour)

- Core Concepts Overview
    - Difference between AI, Machine Learning (ML), Deep Learning (DL), and Generative AI (GenAI).

    - What are different technologies used to implement these concepts
    - How to solve any problems using AI
        - Finding Data
        - Selecting best model
        - Testing
        - Training

Session 3: Core Concepts of AI & ML (1 Hour)

- Machine Learning Basics
    - Overview of Supervised, Unsupervised, and Reinforcement Learning.
    - Categorize examples into ML types.
- Hands-On Activity
    - Use Google's Teachable Machine to train a simple ML model (e.g., pose detection or image classification).

Session 4: Exploring Use Cases with Teachable Machine (1.25 Hours)

- Discussion
    - Applications of image, pose, and sound detection.
- Preparation for Hackathon
    - Brainstorm additional use cases:
        - Fitness Activity Tracker: Train a model to classify and count exercises (e.g., squats, push-ups).
        - Plant Disease Detection: Train a model to identify plant diseases based on leaf patterns.
        - Custom Hand Gesture Controls: Train a model to control devices using gestures like thumbs-up or open palm.

Session 5: AI & ML Hackathon (1.5 Hours)

- Team Activity
    - Solve real-world problems using Teachable Machine.
    - Each team creates a working model and discusses its real-world application.
- Resources Provided
    - Notebooks and step-by-step instructions to complete tasks.

Session 6: Wrap-Up & Reflection (15 Minutes)

- Recap of Day 1 Concepts
    - Review the day's activities and key learnings.
- Q&A Session
    - Open discussion for clarifications.

Outcomes of the Workshop

By the end of this workshop, participants will:

1. Understand the fundamental concepts of AI and its evolution over the years.
2. Differentiate between AI, Machine Learning, Deep Learning, and Generative AI, and recognize their applications.
3. Gain practical experience by using Google's Teachable Machine to create simple models for image, pose, and sound detection.
4. Develop the ability to brainstorm and implement AI solutions for real-world problems during the AI Hackathon session.
5. Have the opportunity to ask questions and clarify doubts during the wrap-up and Q&A session.

How You Can Continue Learning in the Future

To continue your learning journey after this workshop, consider the following steps:

- Engage with online platforms offering courses in AI and its related fields.
- Participate in forums and discussion groups to connect with other AI enthusiasts and professionals.
- Practice by working on small projects or hackathons to apply your learning in real-world scenarios.
- Stay updated with the latest research and developments in AI by following relevant publications and influencers in the field.