

# 5-Week Beginner AI Training Curriculum

Training Days: 2 per Week

Mode: Hands-on + Theory

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## Week 1: Introduction to AI & Python for AI

### Day 1: Understanding AI and Its Applications

- What is AI?
- AI vs. Machine Learning vs. Deep Learning
- Real-world applications of AI (healthcare, finance, robotics, etc.)
- Ethical considerations in AI

### Day 2: Python Fundamentals for AI

- Installing Python & Jupyter Notebook
  - Variables, data types, and operators
  - Conditional statements and loops
  - Functions and modules in Python
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## Week 2: Data Handling and Preprocessing

### Day 3: Introduction to Data in AI

- Importance of data in AI
- Structured vs. unstructured data
- Introduction to NumPy for numerical computing
- Introduction to Pandas for data manipulation

### Day 4: Data Preprocessing and Visualization

- Handling missing values
  - Data transformation and normalization
  - Introduction to Matplotlib & Seaborn for visualization
  - Exploratory Data Analysis (EDA)
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## Week 3: Machine Learning Basics

## **Day 5: Introduction to Machine Learning (ML)**

- What is machine learning?
- Types of ML (Supervised, Unsupervised, Reinforcement Learning)
- Understanding features and labels
- Building a simple ML model using Scikit-learn

## **Day 6: Supervised Learning Algorithms**

- Linear Regression
  - Classification (Logistic Regression, Decision Trees)
  - Model evaluation (Accuracy, Precision, Recall, F1-score)
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## **Week 4: Deep Learning Fundamentals**

### **Day 7: Introduction to Neural Networks**

- Basics of Artificial Neural Networks (ANN)
- Understanding neurons, activation functions
- Introduction to TensorFlow and Keras

### **Day 8: Building a Simple Neural Network**

- Creating a neural network with Keras
  - Training and evaluating the model
  - Overfitting and how to prevent it
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## **Week 5: AI Project & Final Challenge**

### **Day 9: Working on a Real AI Project**

- Dataset selection
- Model building and fine-tuning
- Model deployment basics

### **Day 10: Final Challenge & Presentation**

- Hands-on AI challenge
- Presentation of projects
- Feedback and next steps