

# 1.5-Month AI/ML Developer Roadmap

"Small progress every day adds up to big results!"

## ## Phase 1: Foundations (Days 1-10)

\*Goal\*: Python proficiency + ML fundamentals

\*Topics\*:

- Python syntax & data structures
- NumPy (arrays), Pandas (DataFrames), Matplotlib (visualization)
- Data loading/cleaning (CSV, JSON)
- ML concepts: Supervised vs Unsupervised learning

\*\*Project\*\*: Titanic Survival Predictor

- Predict passenger survival using logistic regression
- Use Kaggle's Titanic dataset

\*Resources\*:

1. [Python Crash Course](<https://nostarch.com/pythoncrashcourse2e>) (Ch 1-10)
2. [Kaggle Python Course](<https://www.kaggle.com/learn/python>)
3. [Pandas Tutorial]([https://pandas.pydata.org/docs/getting\\_started/tutorials.html](https://pandas.pydata.org/docs/getting_started/tutorials.html))

## # Phase 2: Core ML Models (Days 11-25)

\*\*Goal\*\*: Implement key algorithms + evaluation

\*\*Topics\*\*:

- Linear/Logistic Regression
- KNN, Decision Trees, Random Forests
- Model metrics (Accuracy, Precision, Recall, F1)
- Cross-validation, hyperparameter tuning

\*\*Projects\*\*:

1. 🏠 House Price Prediction (Linear Regression)
2. 📧 Spam Classifier (Naive Bayes)

\*\*Resources\*\*:

1. [Scikit-Learn Tutorials](<https://scikit-learn.org/stable/tutorial/index.html>)
2. [Machine Learning Mastery](<https://machinelearningmastery.com/start-here/>)
3. [Google ML Crash Course](<https://developers.google.com/machine-learning/crash-course>)

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## ## Phase 3: Intermediate ML & NLP (Days 26-35)

**Goal:** Unsupervised learning + text processing

**Topics:**

- Clustering (K-Means)
- Dimensionality Reduction (PCA)
- NLP: Tokenization, TF-IDF, Word Embeddings
- Basic sentiment analysis

**Projects:**

1. 🎬 Movie Review Sentiment Analysis
2. 📰 News Topic Clustering (K-Means)

**Resources:**

1. [NLTK Book](<https://www.nltk.org/book/>)
2. [Text Mining with Python](<https://www.coursera.org/learn/python-text-mining>)
3. [Hugging Face NLP Course](<https://huggingface.co/learn/nlp-course>)

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## ## Phase 4: Deep Learning & LLMs (Days 36-45)

**Goal:** Neural networks + modern AI tools

**Topics:**

- Neural network fundamentals
- TensorFlow/PyTorch basics
- Transformers architecture
- LLM APIs (OpenAI, Hugging Face)
- RAG concepts

**Projects:**

1. 📝 Text Summarizer (Pegasus/API)
2. 💬 Q&A Chatbot (BERT + RAG)

**Resources:**

1. [TensorFlow Tutorials](<https://www.tensorflow.org/tutorials>)
2. [Hugging Face Transformers](<https://huggingface.co/docs/transformers/quicktour>)
3. [DeepLearning.AI Short Courses](<https://www.deeplearning.ai/short-courses/>)

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### # Final Week Goals

1. Build portfolio with 4 projects
2. Create GitHub repository with clean code
3. Write case study for best project

4. Explore 1 research paper (e.g., BERT/Transformer)

**\*\*Pro Tip\*\***: Focus on understanding concepts over memorization. Rebuild projects from scratch without tutorials to test knowledge.

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[Download Full Resource List with Links](<https://example.com/ml-resources>)

Sample Blog Post

Title: My 45-Day Journey from Zero to Building AI Models

Intro: I spent 1.5 months learning AI/ML basics.

Here is what I built and learned.

Body:- Python basics -> Core ML -> NLP -> LLMs-

Projects: Titanic predictor, spam classifier, sentiment analyzer, chatbot.

Conclusion: Start small, build daily, stay consistent!

CTA: Follow my GitHub and connect on LinkedIn