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)

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)

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)

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/)

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.

[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