

4-Week NLP + MLOps Study Plan (2 Hours/Day)

Week 1: Fundamentals & Setup

Goals: Understand NLP basics, MLOps lifecycle, and environment setup.

Day	Topic	Task / Resource
Mon	NLP Basics	Tokenization, stopwords, stemming, lemmatization using NLTK. YouTube: NLP Crash Course.
Tue	Text Preprocessing	TF-IDF, bag of words, spam classifier using scikit-learn.
Wed	MLOps Intro	Lifecycle, CI/CD in ML. Read: Google MLOps Primer.
Thu	Versioning	DVC setup + Git integration on a toy dataset.
Fri	Text Classification Project	Twitter sentiment / spam detection classifier. Save model.
Sat	Serve Model	Create FastAPI endpoint to serve saved model.
Sun	Review	Push to GitHub, polish README, write a short blog (optional).

Week 2: Deepen NLP + Automate MLOps

Goals: Use pretrained NLP models, experiment logging, deployment.

Day	Topic	Task / Resource
Mon	Hugging Face Basics	Use transformers pipeline (e.g., sentiment analysis).
Tue	Fine-tuning	Fine-tune distilBERT using Hugging Face datasets.
Wed	MLFlow Intro	Log experiments with sklearn or transformer model.
Thu	Deploy Hugging Face Model	FastAPI + REST deployment.
Fri	Dockerize API	Write Dockerfile, build/test container locally.
Sat	CI/CD	GitHub Actions to auto-deploy when repo changes.
Sun	Review	End-to-end test, documentation, polish.

Week 3: Projects + Monitoring

Goals: Real-world app, monitoring, deployment.

Day	Topic	Task / Resource
Mon	NLP Chatbot	Build chatbot with transformers + FastAPI/Django.
Tue	Custom Project	Resume/CV parser or Q&A bot using transformers.
Wed	Monitoring	Prometheus + Grafana for API metrics.
Thu	Cloud Deployment	Use Render, Spaces, or EC2. Test everything.
Fri	Authentication	JWT/Auth integration in API.
Sat	Resume + GitHub Polish	Add clear README, project GIFs/screenshots.
Sun	Review	Finalize project, video walkthrough (optional).

Week 4: Interviews + Showcasing

Goals: Prepare for interviews and polish public profiles.

Day	Topic	Task / Resource
Mon	Interview Qs	ML + NLP interview questions.
Tue	Project Explanation	STAR format explanations for interviews.
Wed	Deployment Review	Make sure all links (Render/EC2/Spaces) work.
Thu	Mock Interview	Peer or platform-based interview.
Fri	Resume/LinkedIn	Update with project links.
Sat	Job Applications	Start applying to relevant roles.
Sun	Review	Final polish + relax.

Tools & Libraries

- **NLP:** NLTK, spaCy, Hugging Face Transformers, scikit-learn
- **MLOps:** FastAPI, MLflow, Docker, GitHub Actions, DVC, Prometheus
- **Others:** Git, VSCode, Postman, Render/Hugging Face Spaces/EC2

Bonus Projects

- Resume parser with spaCy.
- Chatbot using transformers + FastAPI + PostgreSQL.
- Real-time dashboard (NLP + Grafana).
- Full MLOps pipeline using MLflow + GitHub Actions + Docker.

Let me know if you'd like this exported to Notion or Trello, or want help bootstrapping the first project repo.