12-Week AI Engineering Intern Preparation Timetable

WEEK 1 – Python Foundation + Git

Day	Tasks
Mon	Python basics: variables, loops
Tue	Lists, dictionaries, sets
Wed	Error handling, file I/O
Thu	Intro to Git + GitHub
Fri	Push first script to GitHub
Sat	Simple mini project
Sun	Review & practice

WEEK 2 – Data Handling with NumPy & Pandas

Day	Tasks
Mon	NumPy arrays & indexing
Tue	Pandas basics
Wed	Filtering, grouping
Thu	Missing data handling
Fri	Dataset merging
Sat	Mini cleaning project
Sun	Review

WEEK 3 – Core Machine Learning (Scikit-Learn)

Day	Tasks
Mon	Train/test split & metrics
Tue	Linear Regression
Wed	Logistic Regression
Thu	Decision Trees
Fri	Random Forest

Day	Tasks
Sat	Model comparison project
Sun	Documentation + GitHub

WEEK 4 – Feature Engineering + Model Tuning

Day	Tasks
Mon	Encoding methods
Tue	Scaling methods
Wed	Outlier handling
Thu	Feature selection
Fri	GridSearch tuning
Sat	Before/after comparison
Sun	Review

WEEK 5 – SQL + Databases

Day	Tasks
Mon	Basic SQL queries
Tue	JOIN operations
Wed	GROUP BY aggregation
Thu	Subqueries
Fri	CRUD operations
Sat	SQL mini-project
Sun	NoSQL basics

WEEK 6 – TensorFlow/Keras Basics

Day	Tasks
Mon	Neural network theory
Tue	Build first ANN
Wed	Add dropout/regularization
Thu	Validation methods
Fri	Model saving/loading
Sat	ANN classification project

Sun	Review

WEEK 7 – CNN or NLP Expansion

Day	Tasks
Mon	CNN theory
Tue	Build CNN
Wed	Train on CIFAR-10/MNIST
Thu	Evaluate & tune model
Fri	NLP Classification (optional)
Sat	Upload final model
Sun	Review

WEEK 8 – Automated ML Pipelines

Day	Tasks
Mon	Intro to pipelines
Tue	Automating preprocessing
Wed	Feature engineering automation
Thu	Reusable pipeline modules
Fri	One-click training script
Sat	Pipeline mini-project
Sun	Documentation

WEEK 9 – Deployment (Flask/FastAPI)

Day	Tasks
Mon	Flask basics
Tue	Build API endpoint
Wed	JSON input/output
Thu	FastAPI basics
Fri	Local deployment
Sat	Simple UI integration
Sun	Review

WEEK 10 – Docker + GCP Basics

Day	Tasks
Mon	Docker fundamentals
Tue	Build Dockerfile
Wed	Containerize ML model
Thu	GCP introduction
Fri	Upload data/model to GCP
Sat	Run notebook on GCP
Sun	Review

WEEK 11 – CI/CD + Git Mastery

Day	Tasks
Mon	Branching workflows
Tue	GitHub Actions basics
Wed	Create CI workflow
Thu	Automated testing
Fri	CI for ML project
Sat	Document CI pipeline
Sun	Review

WEEK 12 – Final Project + Interview Prep

Day	Tasks
Mon	Explain ML model
Tue	Explain preprocessing
Wed	Explain deployment
Thu	Interview Q&A
Fri	Update CV + LinkedIn
Sat	Mock interview
Sun	Final polish