

2025

4Geeks Academy: data science cohort 12

# DAY 32: ML APP DEPLOYMENT CONT'D

# TODO

## ML APP DEPLOYMENT

Web app frameworks, where to deploy

## DEPLOY

Deploy movie recommendation system web app to  
Render

# TOPICS

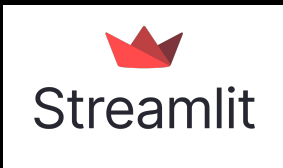
01 WEB APP FRAMEWORKS

02 WHERE TO DEPLOY

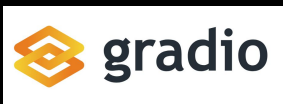
# WEB APP FRAMEWORKS



- **Full control & flexibility:** Custom HTML/CSS/JS and complex routing
- **Steeper learning curve:** Knowledge of web development and front-end technologies
- **Production-ready:** Extensive deployment options and scalability features
- **Best for:** Complex applications, custom UI, integration with existing web infrastructure



- **Rapid prototyping:** Turn Python scripts into web apps with minimal code changes
- **Data science focused:** Built-in widgets for plots, dataframes and file uploads
- **Automatic reactivity:** App reruns when inputs change, no manual state management
- **Best for:** Data dashboards, analysis tools, sharing data insights



- **ML model deployment:** Specifically designed for creating ML model interfaces
- **Minimal setup:** Generate web interfaces with just a few lines of code
- **Built-in ML features:** Handles common ML input/output types (images, audio, text)
- **Best for:** Quick model demos, sharing ML models with non-technical users

# WHERE TO DEPLOY



- **Multi-framework support:** Works with Flask, Streamlit, and Gradio apps
- **Easy deployment:** Git-based deployment with automatic builds
- **Good free tier:** Includes databases, background workers, and custom domains
- **Great for:** Production Flask apps, Streamlit dashboards that need custom domains



- **Native integration:** Deployment directly from GitHub repos with zero configuration
- **Free tier available:** Good for personal projects and prototypes
- **Streamlit-optimized:** Handles Streamlit-specific requirements automatically
- **Limitations:** Only supports Streamlit apps, limited customization options



**Hugging Face**

- **ML-focused community:** Perfect discoverability for ML demos and models
- **Gradio/Streamlit optimized:** Built specifically for these frameworks
- **ML performance:** More CPU/RAM than others +limited GPU inference at no cost
- **Best for:** Sharing ML models publicly, building portfolio of ML demos, reaching ML community