CreateML OR AI Tools for iOS App Testing?

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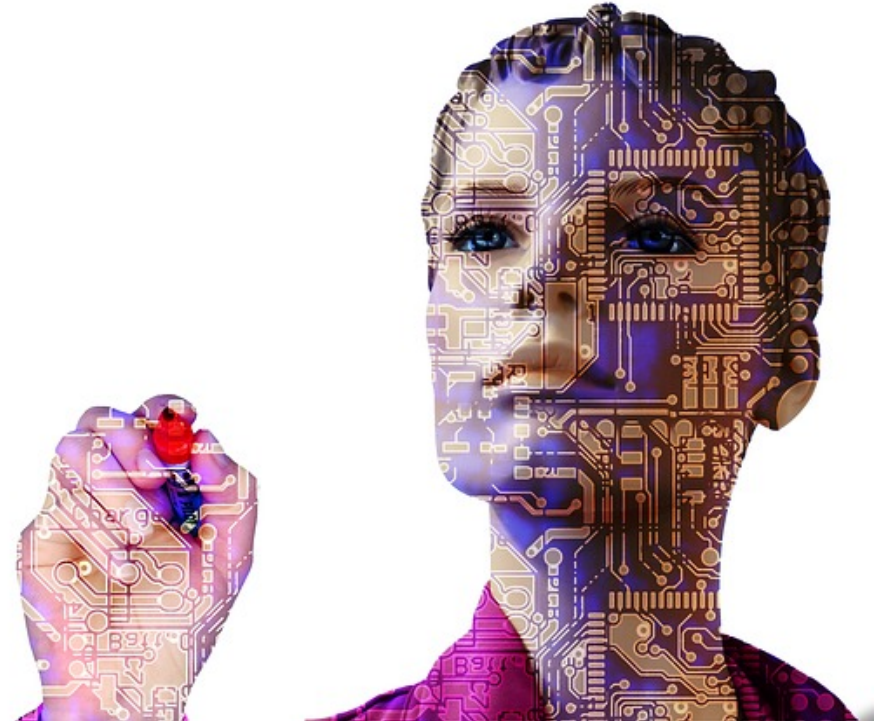Blogs: https://shashikantjagtap.net

Topics

- What is AI and ML

- How AI-based tools test iOS Apps

- Challenges in Testing iOS Apps with AI/ML

- What's is CreateML & How to Train ML Models with CreateML

- CreateML - Demo

What is AI and ML
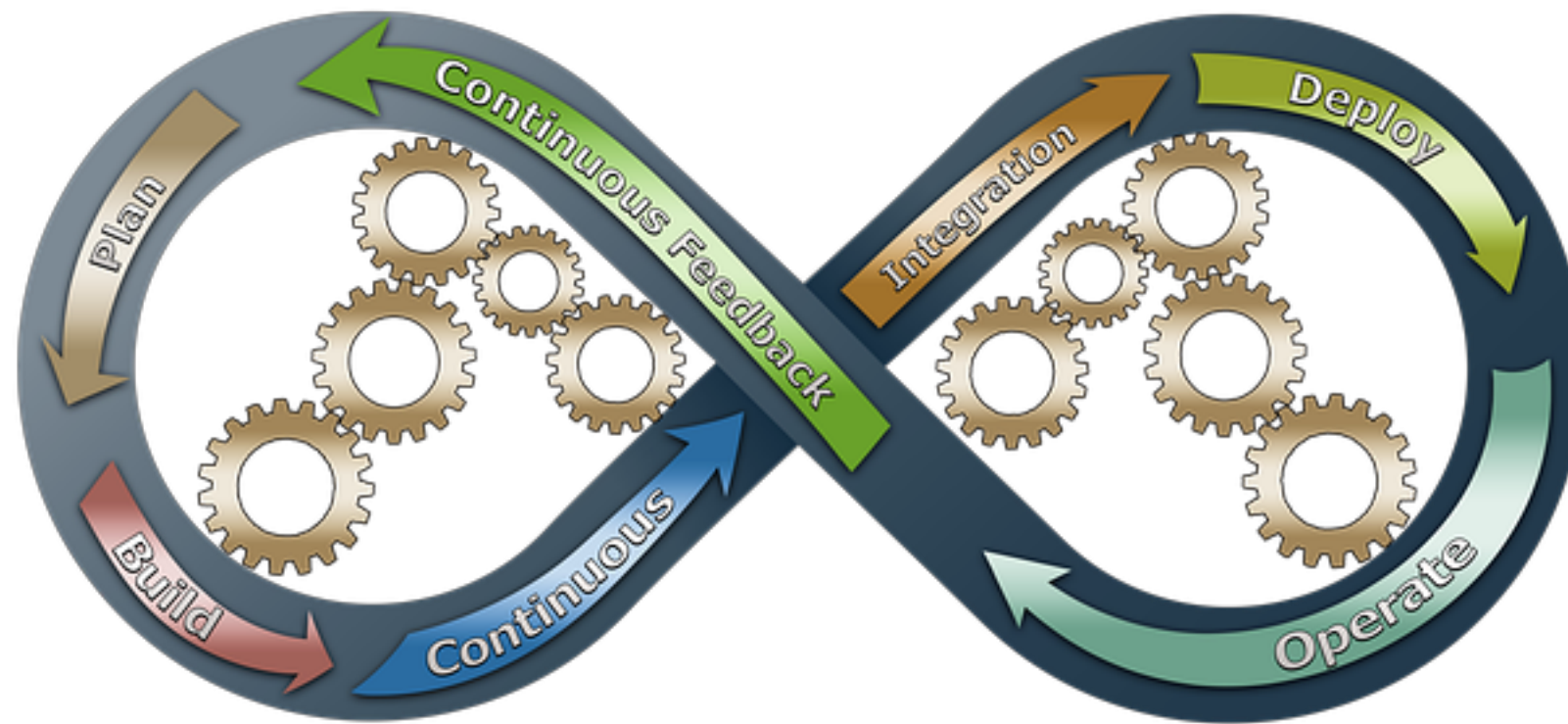
Machine Learning

Artificial Intelligence

Why QA Needs AI/ML?

DevOps   **Continuous Deployment**   **Continuous Delivery**

QA with the pace of CI/CD is impossible

How AI/ML Help QA?

Code-less   **Infrastructure-less**

Planning-less   **Flaky-less**

human-less?

AI will help existing QA Efforts

AI/ML Tools

- Mabl

- Test.ai

- testim.io

- Functionize

- Appliance

- TestCraft

- Bitbar

- Applitools

- Many more + coming soon …

How AI/ML Tools Test Web Apps?

- Provide web app URL and test login credential

- AI tool will crawl your web app and reports broken link, JS errors

- Auto Generates Scenarios and Perform Journeys

- Give Feedback from CI Server

- No Code, No Infrastructure. Trainable Virtual QA Engineer

How AI/ML Tools Test Mobile Apps?

- Provide pre-built app binary (IPA, APK)

- AI tool will install app on devices

- Auto Generates Scenarios and Perform Journeys

- Reports issues, crashes. Generate Screenshots & recordings

- Give Feedback from CI Server

- No Code, No Infrastructure.

iOS App Testing

- Unit Testing (XCTest)

- Integration and Network Testing (XCTest, Fitnesse)

- UITest (XCUITest, Appium, Calabash)

- Non-functional testing

- Heavy Manual Testing

Role of AI in iOS Testing

- Reduce the burden on controlled testing

- Free up time for exploratory testing

- Great Coverage in limited time

- Works well for faster feedback

Challenges

- iOS Deployment and Build Process

- Apple Ecosystem

- Training Models for iOS Apps

- App Extensions

Welcome CreateML

- Apple's framework- Train ML Model

- No need to learn TensorFlow or IBM Watson

- Just few lines of Swift and data to train models

What You Need
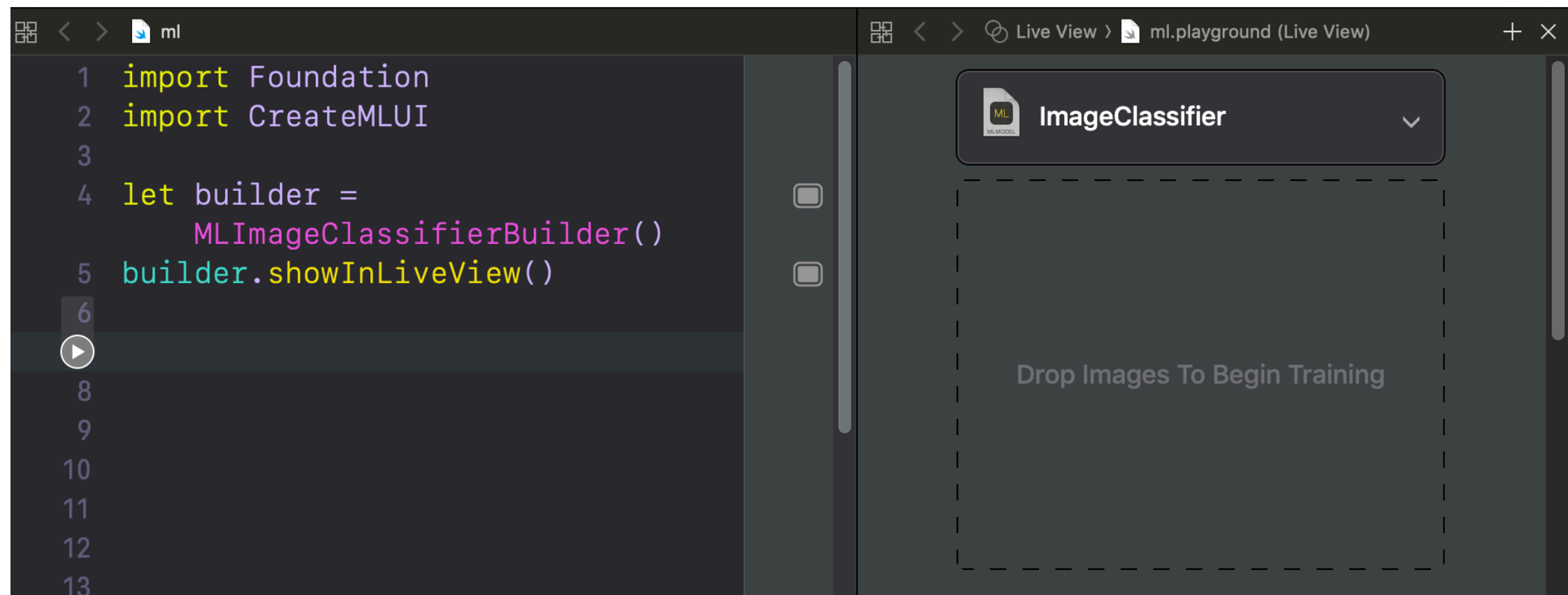

- maOS Mojave

- Xcode 10
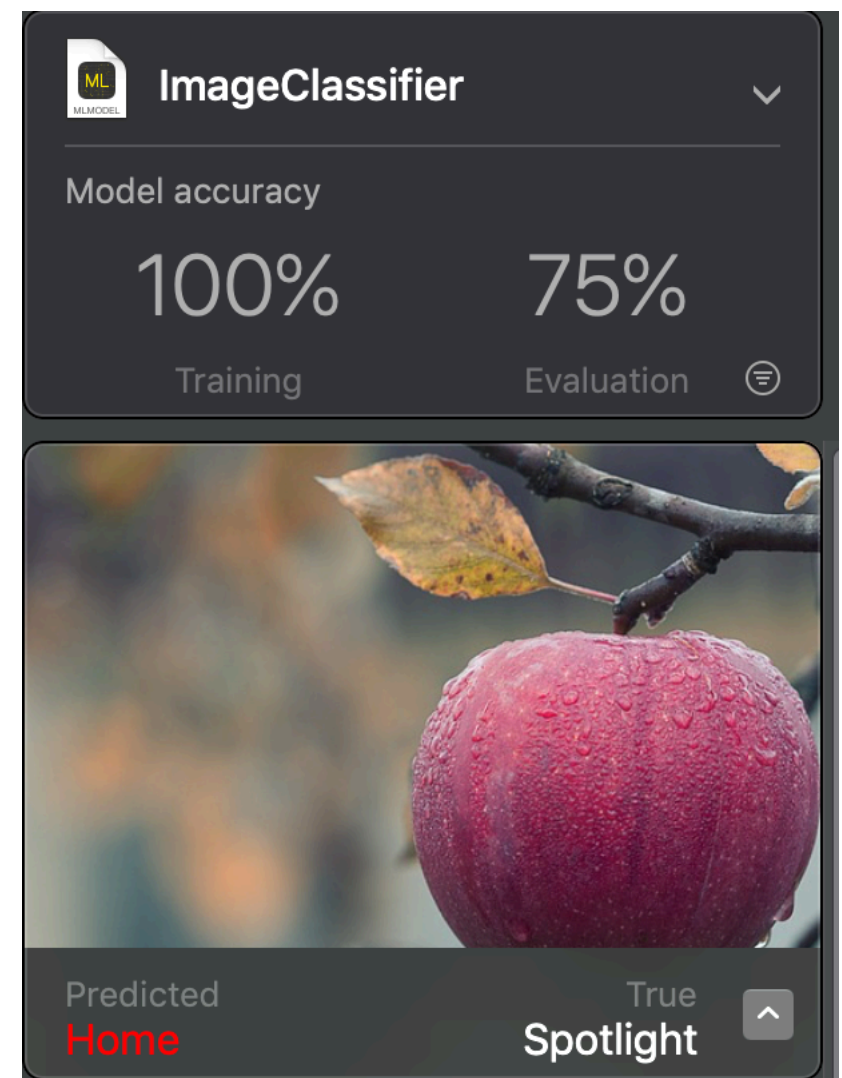
- You are set!

How To Train Models

- Collect Training and Testing Data

- Open Xcode Playground-macOS template

- import libraries and start Training Models

How To Train Models

Save Accurate Model

- Once achieved desired Accuracy

- Save the model (.mlmodel)

- Use this model for CoreML

- No Need to Learn other ML tools

What Can Be Trained

- Images

- Tabular data (CSV, JSON)

- Complex data if you are ML expert

Can CreateML Test iOS Apps

- Images —> Visual Validation Testing

- JSON -> API Testing of JSON Responses

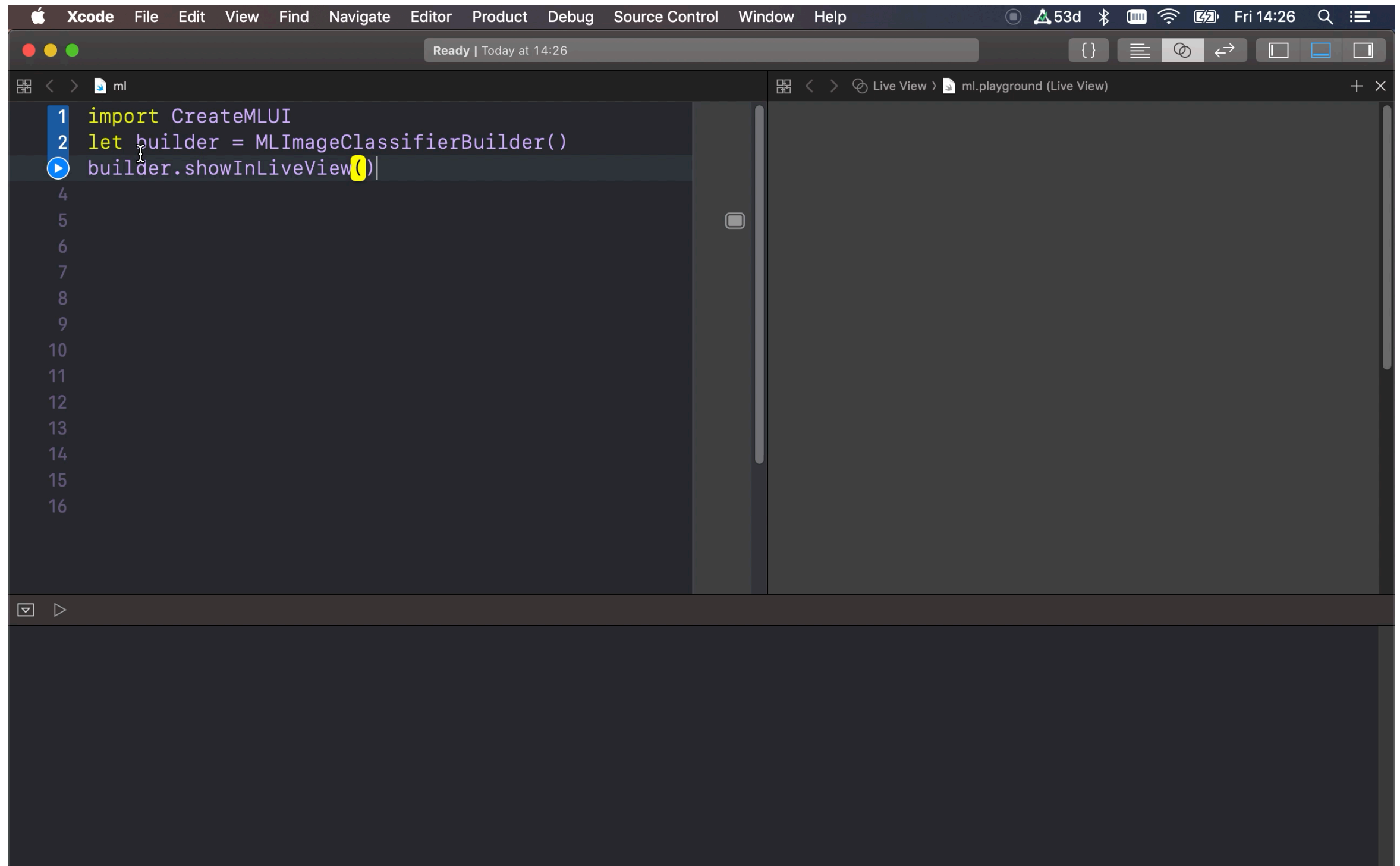- Let's Explore that into the Demo

It's All About DATA

CreateML- Demo

CreateML

Question?