

SingleViewApp
imageView label button

// more bits more precision
Machine Learning Models

// ViewController.swift

```
import UIKit
import CoreML
import Vision
```

```
class ViewController: UIViewController, UIImagePickerControllerDelegate, UINavigationControllerDelegate {
```

```
    @IBOutlet weak var imageView: UIImageView!
```

```
    @IBOutlet weak var resultLabel: UILabel!
```

```
    var chosenImage = UIImage()
```

```
    override func viewDidLoad() {
        super.viewDidLoad()
```

```
}
```

```
    @IBAction func changeClicked(_ sender: Any) {
```

```
        let picker = UIImagePickerController()
```

```
        picker.delegate = self
```

```
        picker.sourceType = .photoLibrary
```

```
        present(picker, animated: true, completion: nil)
```

```
}
```

// come with the delegate

```
func imagePickerController(_ picker: UIImagePickerController, didFinishPickingMediaWithInfo info: [UIImagePickerController.InfoKey: Any]) {
```

```
    imageView.image = info[.originalImage] as? UIImage
```

```
    self.dismiss(animated: true, completion: nil)
```

```
    if let ciImage = UIImage(image: imageView.image!) {
```

```
        chosenImage = ciImage
```

```
}
```

```
    recognizeImage(image: chosenImage)
```

```
}
```

```
func recognizeImage(image: UIImage) {
```

```
    resultLabel.text = "finding..."
```

```
    if let model = try? VNCoreMLModel(for: MobileNetV2().model) {
```

```
        let request = VNCoreMLRequest(model: model) { (vnrequest, error) in
```

```
            if let results = vnrequest.results as? [VNClassificationObservation] {
```

```
                if result.count > 0 {
```

```
                    let topResult = results.first
```

```
                    DispatchQueue.main.async {
```

```
                        let confidenceLevel = (topResult?.confidence ?? 0) * 100
```

```
                        let rounded = Int(confidenceLevel * 100 / 100)
```

```
                        self.resultLabel.text = "(rounded) % it's (topResult?.identifier)"
```

```
                    }
```

```
}
```

```
}
```

// 1, request 2, handler


```
let handler = VNImageRequestHandler(CIImage: image)
DispatchQueue.global(qos: .userInteractive).async {
    do {
        try handler.perform(request)
    } catch {
        print("error")
    }
}
```

```
}
```

```
}
```

```
}
```