

**Quick, Draw! Doodle Recognition**  
**Machine Learning Mini Project Report**

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**Introduction**

This project is a convolutional neural network (CNN) based doodle classifier trained on the QuickDraw dataset, which contains 345 diverse doodle categories. This project offers a comprehensive implementation in TensorFlow and TensorFlow.js for training, evaluating, and running doodle classification models. The aim is to recognize hand-drawn sketches and classify them into one of the 345 classes with reasonably high accuracy.

**Project Directory Structure**

**Doodle\_Recoginser/**

```
├— .gitignore
├— README.md
├— demo/
├— images/
├— model-keras/
├— model-tfjs/
├— runway/
├— train/
├— doodleNet.ipynb
```

**Details & Notes**

- **demo/** — contains the web demo(s) (HTML, JS, CSS)
- **images/** — sample images or visuals (GIFs, PNGs)
- **model-keras/** — likely stores the Keras / TensorFlow model files

- **model-tfjs/** — the converted model for TensorFlow.js
- **runway/** — maybe scripts or assets for integration
- **train/** — training scripts, data processing, or model training code
- **doodleNet.ipynb** — Jupyter notebook, probably for experiments or model training
- **.gitignore, README.md** — configuration/documentation files

### **Code**

The core of the project includes convolutional neural network models implemented using TensorFlow. Key components are:

- Model training scripts for classifying doodles across 345 categories.
- Demo implementations in TensorFlow.js allowing in-browser doodle classification.
- A KNN classifier extension for customizable doodle categories.
- Jupyter Notebooks used for training and experimenting with models.

### **Output**

## Doodle Classifier with 345 Classes

A doodle classifier(CNN) trained on 345 classes from [Quickdraw dataset](#)



I see:

lighthouse (10%),  
microphone (9%),  
streetlight (8%),  
flashlight (6%),  
matches (6%),  
palm\_tree (5%),  
broccoli (5%),  
knee (4%),  
candle (3%),  
fork (2%)

## Doodle Classifier with 345 Classes

A doodle classifier(CNN) trained on 345 classes from [Quickdraw dataset](#)

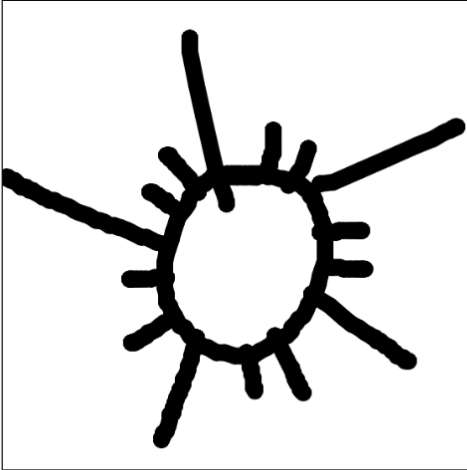


I see:

rain (80%),  
animal\_migration (4%),  
river (4%),  
beach (3%),  
sun (1%),  
camouflage (1%),  
peas (1%),  
streetlight (1%),  
ocean (1%),  
lantern (0%)

# Doodle Classifier with 345 Classes

A doodle classifier(CNN) trained on 345 classes from [Quickdraw dataset](#)

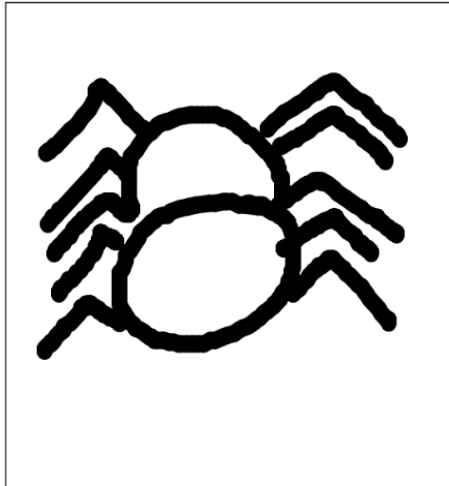


I see:

sun (75%),  
snowflake (15%),  
stitches (5%),  
light\_bulb (1%),  
cactus (1%),  
beach (0%),  
rain (0%),  
alarm\_clock (0%),  
floor\_lamp (0%),  
spider (0%)

# Doodle Classifier with 345 Classes

A doodle classifier(CNN) trained on 345 classes from [Quickdraw dataset](#)



I see:

spider (57.99999999999999%),  
beach (12%),  
sun (9%),  
alarm\_clock (5%),  
crab (3%),  
moon (2%),  
ocean (2%),  
light\_bulb (1%),  
animal\_migration (1%),  
lantern (1%)

**GitHub Link**

[https://github.com/Snehavermaa/Doodle\\_Recoginser](https://github.com/Snehavermaa/Doodle_Recoginser)