

# DISH DETECTIVE

## IMAGE RECOGNITION

USING CONVOLUTIONAL NEURAL NETWORK



CHONCHANOK CHAIPHAKDEE

# FOOD & TRAVEL



- Menu in the local language
- Impossible pronunciation
- Mysterious ingredients
- Unclear spicy level
- HOW SPICY IS IT, really?



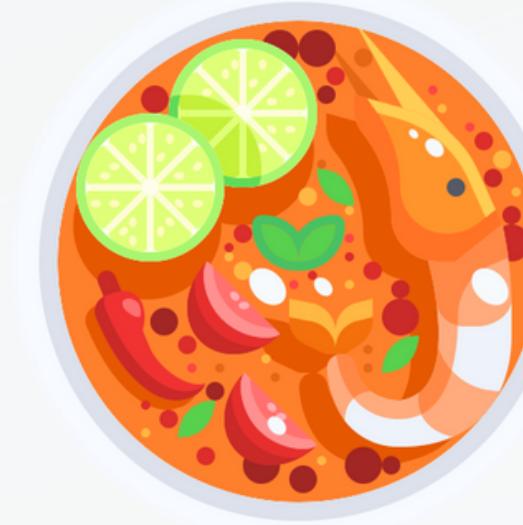
- Challenging time recalling the food after the trip



# 'DISH DETECTIVE'

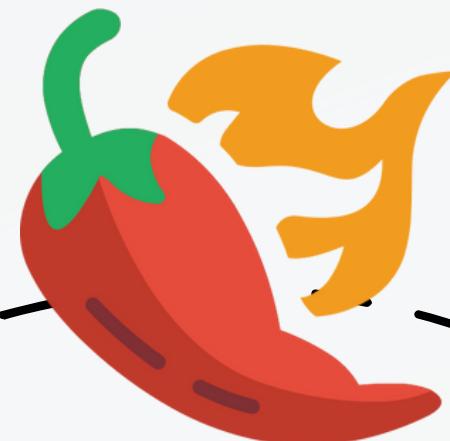
## Objective n° 1

**Identify the name** of the food in its local written and English pronunciation using a snapshot of the food



## Objective n° 2

**Provide the authentic spicy level**



## Objective n° 3

**Provide the expected ingredients** contained in the dish



# FROM DATA TO ‘DISH DETECTIVE’



## THAI FOOD IMAGE DATASET

16k images of 50 different Thai dishes and the mapping



## DATA PROCESSING

Data cleaning (jpg & header)  
Rescaling,  
Preprocessing



## DATA TRAINING

Design architectures (ex. filters) for the **convolutional neural network** on **TensorFlow**



## PREDICTION & DEPLOYMENT

predict the name of the dish of an input image on **Streamlit**

# FOOD LABELS

13,819  
IMAGE  
DATASET

50  
CATEGORIES

GaengKeawWan



GoongPao



KhanomJeenNamYaKati



KhaoNiewMaMuang



GaengKeawWan



FriedKale



# PREDICTION

True: MassamanGai  
Predicted: MassamanGai



True: BitterMelonSoup  
Predicted: BitterMelonSoup



True: CurriedFishCake  
Predicted: FriedChicken



True: KuayJab  
Predicted: KuayJab



True: BitterMelonSoup  
Predicted: BitterMelonSoup



True: FriedChicken  
Predicted: FriedChicken



82%

ACCURACY RATE

# APPLICATION





## DISH DETECTIVE

Classify Thai food images and discover details about each dish!

Upload an image of Thai Food...



Drag and drop file here

Limit 200MB per file - JPG, JPEG, PNG

Browse files



Uploaded Image

Dish detected as

หอยدمันปลา

Tord-Man-Bplaa

Translation: - Thai Curried Fish Cakes -

▶ 0:00 / 0:01 - 🔊 :

Authentic Spicy Level

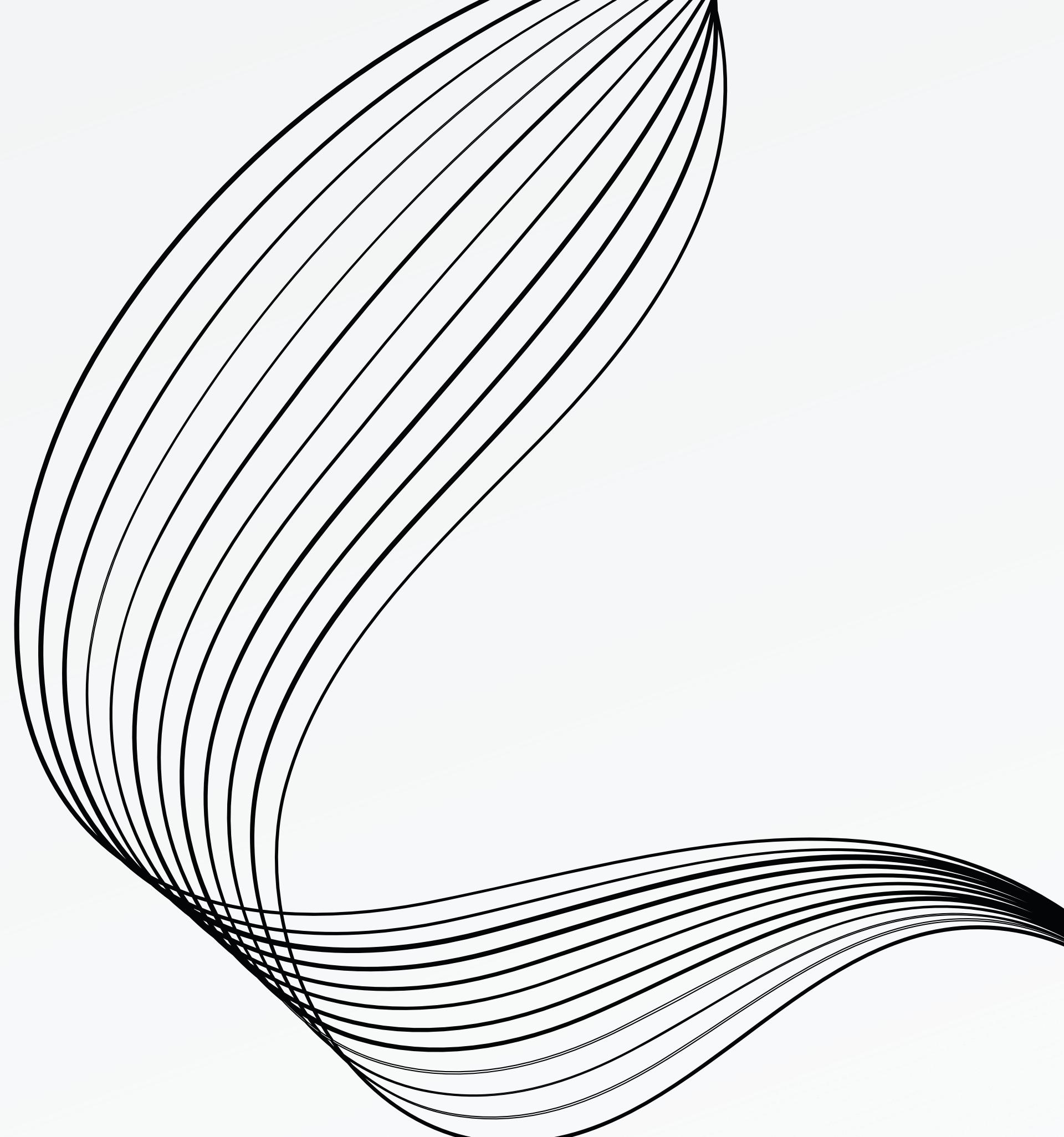
# NEXT PROJECT

AND HOW TO IMPROVE

- IMPROVE THE TRAINING FOR HIGHER ACCURACY
- EXPAND THE NUMBER OF THAI DISHES
- EXPAND THE MARKET TO OTHER CUISINES

# THANK YOU VERY MUCH

*and hope to see you  
using this app in Thailand soon! :)*

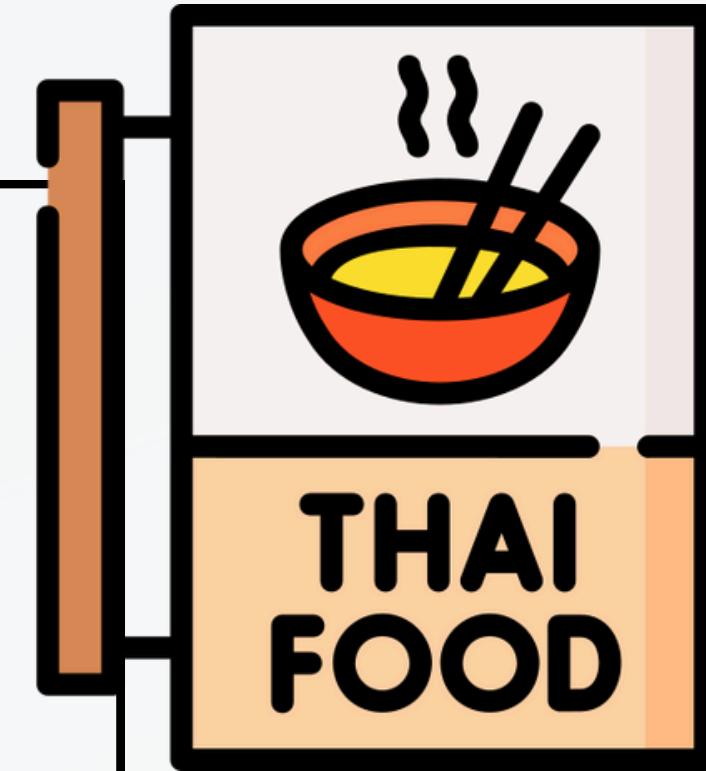


# THAI FOOD

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image2.jpeg 342.8KB



# CONTENT

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