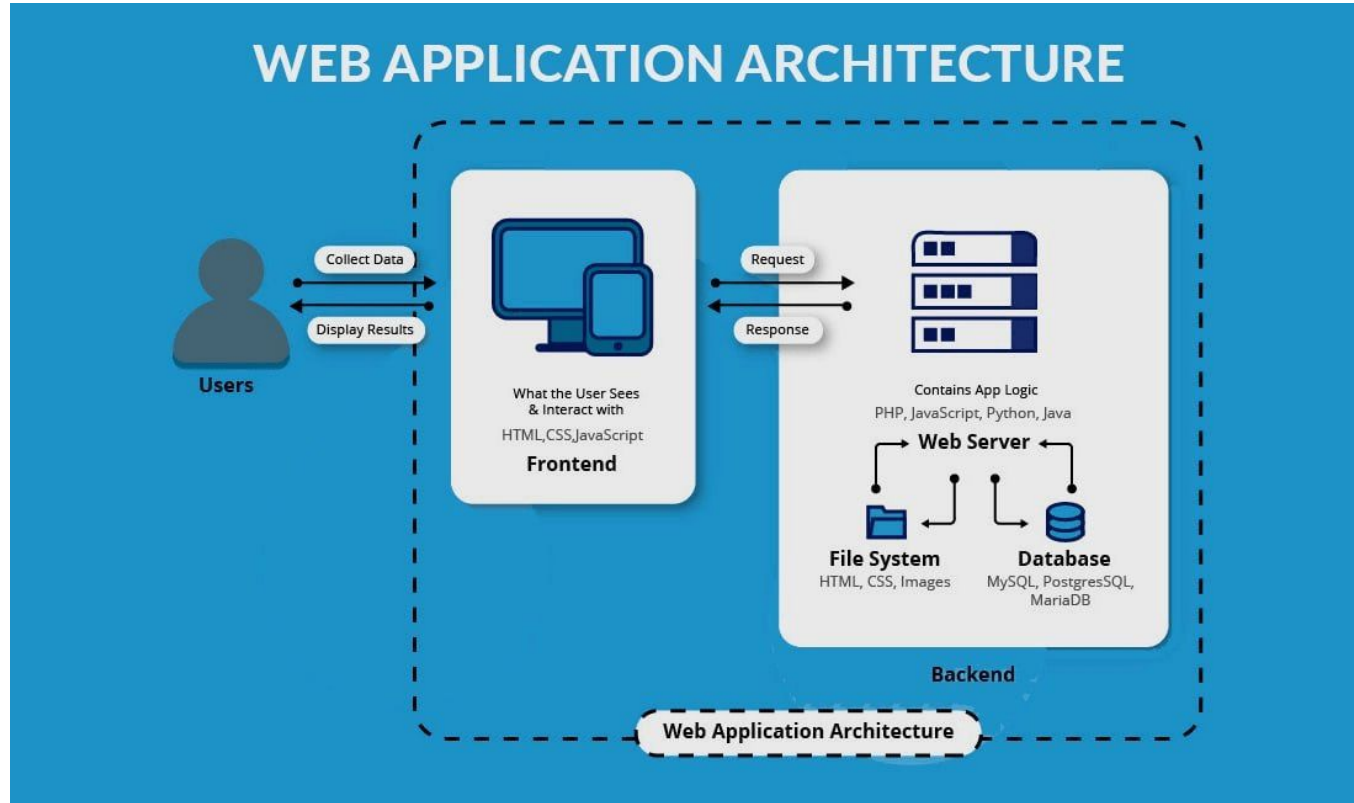


# Model Serving Strategies

# Web Application



# Flask

Flask is a micro web framework written in Python.

This web app will be used to consume the created model.

For instance, a user can enter the feature values into the form and after submitting, the model will predict the outcome(churn or not).

[Docs](#)

# Flask 101

- 1) install Flask: *pip install flask*
- 2) create a **hello.py** file with

```
agiledatascience_labs > flask_lab > hello.py > hello_world
1  from flask import Flask
2
3  app = Flask(__name__)
4
5  @app.route("/")
6  def hello_world():
7      return "<p>Hello, World!</p>"
```

- 3) run the app in the server: *flask --app hello run --port=5002*

Streamlit - <https://streamlit.io/>

# A faster way to build and share data apps

Streamlit turns data scripts into shareable web apps in minutes.

All in pure Python. No front-end experience required.

Try Streamlit now

Sign up for **Streamlit Community Cloud**

[Docs](#)

# Streamlit - Chef Composer

## Chef Transformer

### Welcome to our lovely restaurant!

*(We are at your service with two of the best chefs in the world: Chef Scheherazade, Chef Giovanni. Scheherazade is known for being more creative whereas Giovanni is more meticulous.)*

Choose your chef

Chef Scheherazade

Examples (select from this list)

Turkish Food 1

Insert your food items here (separated by `,`):

phyllo dough, unsalted butter, walnuts, cinnamon, water, honey, melted chocolate

Get Recipe!



Mehrdad Farahani , Kartik Godawat , Haswanth Aekula , Deepak Pandian , Nicholas Broad

Where did this story start?

Hello everyone 🍷, I am **Chef Transformer**, the owner of this restaurant. I was made by a group of [NLP Engineers](#) to train my two prodigy recipe creators: **Chef Scheherazade** and **Chef Giovanni**. Both of my students participated in my rigorous culinary program, [T5 fine-tuning](#), to learn how to prepare exquisite cuisines from a wide variety of ingredients. I've never been more proud of my students -- both can produce exceptional dishes but I regard Scheherazade as being *creative* while Giovanni is *meticulous*. If you give each of them the same ingredients, they'll usually come up with something different.

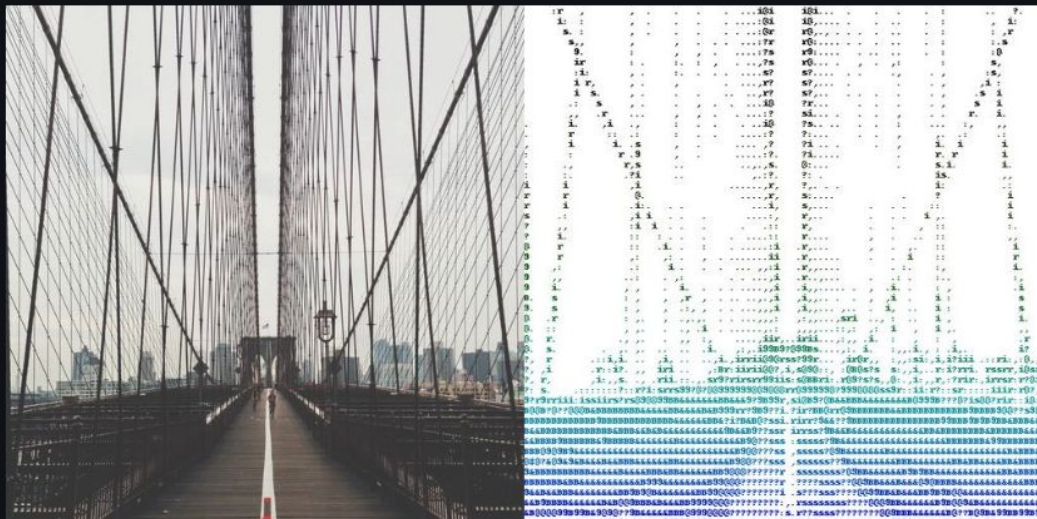
At the start of the program the chefs read cookbooks containing thousands of recipes of varying difficulties and from cultures all over the world. The NLP

# Streamlit - Pic2Ascii

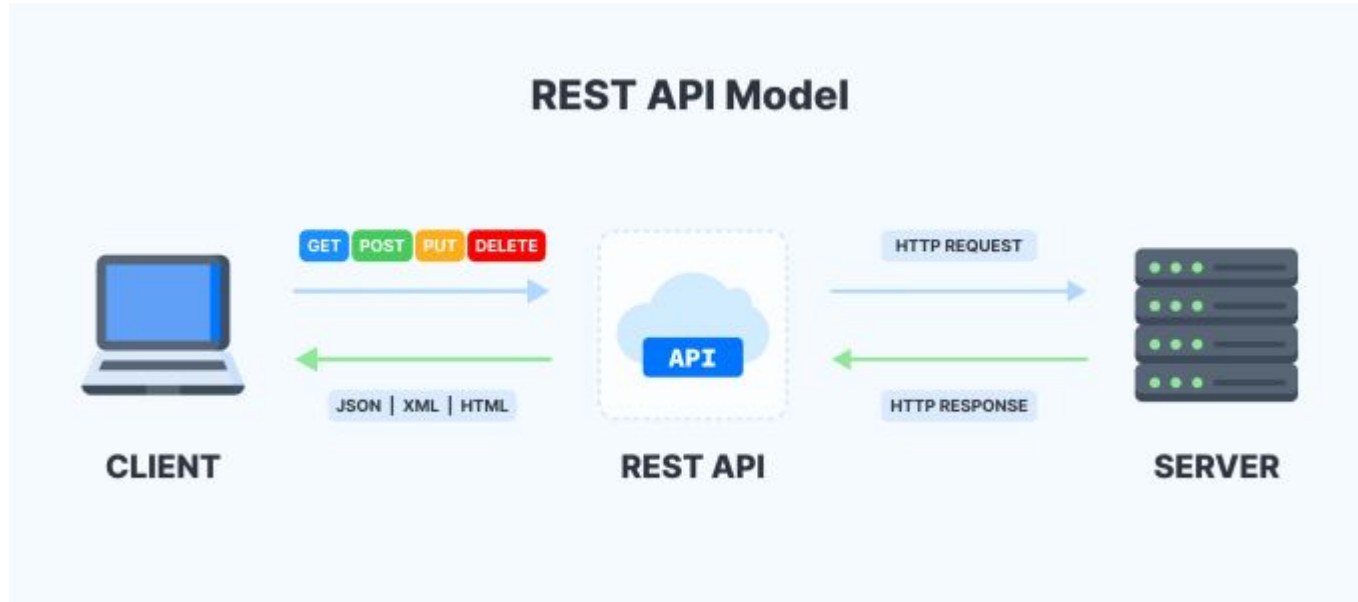
[Github](#)

## ASCIIGan

Keras implementation for learning a mapping from input images to corresponding ASCII art, for example:



# API REST





# API REST

## HTTP Verbs

- **Post** —————➤
- **Get** —————➤
- **Put or Patch** —————➤
- **Delete** —————➤

## CRUD Operations

- **Create**
- **Read**
- **Update**
- **Delete**

# API REST

GET

**/pet/{petId}** Find pet by ID

PUT

**/pet** Update an existing pet

DELETE

**/pet/{petId}** Deletes a pet

POST

**/pet/{petId}/uploadImage** uploads an image

# FAST API



*FastAPI framework, high performance, easy to learn, fast to code, ready for production*

[Docs](#)

# FAST API - Example

- 1) go to **fastapi-lab** in the course github
- 2) install **fastapi** and **uvicorn** packages
- 3) train the model executing **python model/train.py**
- 4) run the API REST server with **uvicorn app:app --reload** under the project folder
- 5) review and test it in the Fast API docs: **<http://127.0.0.1:8000/docs>**

# FAST API - Docker

- 1) Review the Dockerfile
- 2) run **docker build -t fastapiml .**
- 3) run **docker run -d --name heart-disease-serving -p 80:80 fastapiml**

Heart Disease Prediction 0.1.0 OAS3  
[/openapi.json](#)

default

**POST** /score Score

Parameters Cancel

No parameters

Request body required application/json

```
{
  "age": 64,
  "sex": 1,
  "cp": 3,
  "trestbps": 120,
  "chol": 267,
  "fbs": 0,
  "restecg": 0,
  "thalach": 99,
  "exang": 1,
  "oldpeak": 1.6,
  "slope": 1,
  "ca": 1
}
```

# Batch inference

