



OCR Project

Presented By

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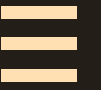


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01.

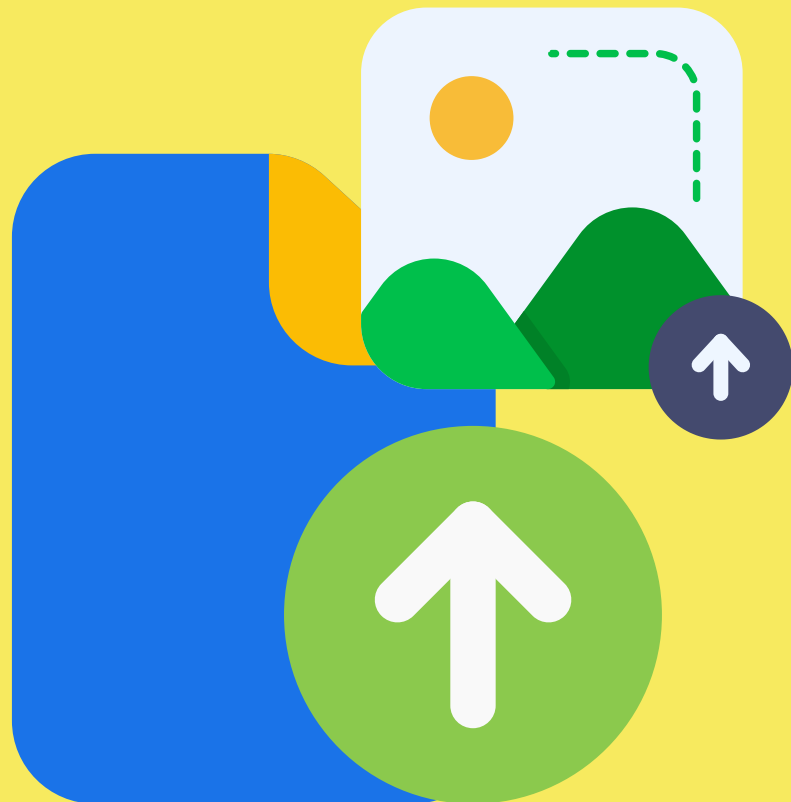


Introduction

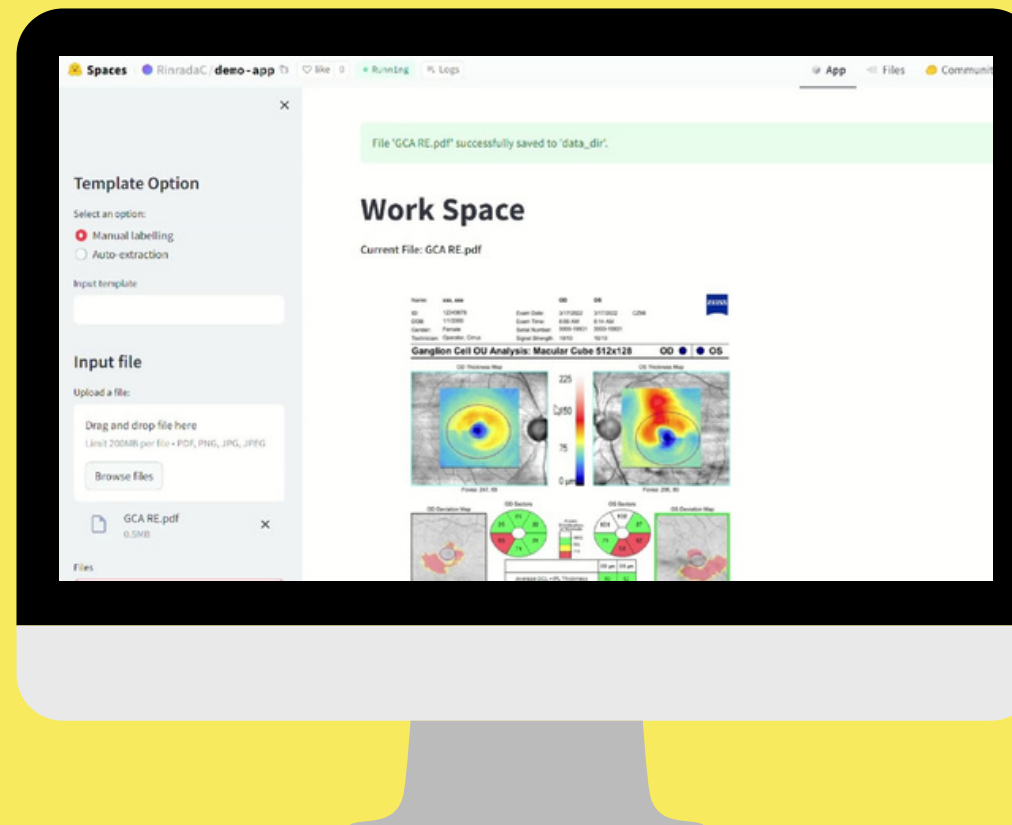
User workflow



1. Upload document
/ Image



2. Manual / Auto-extraction
and perform OCR

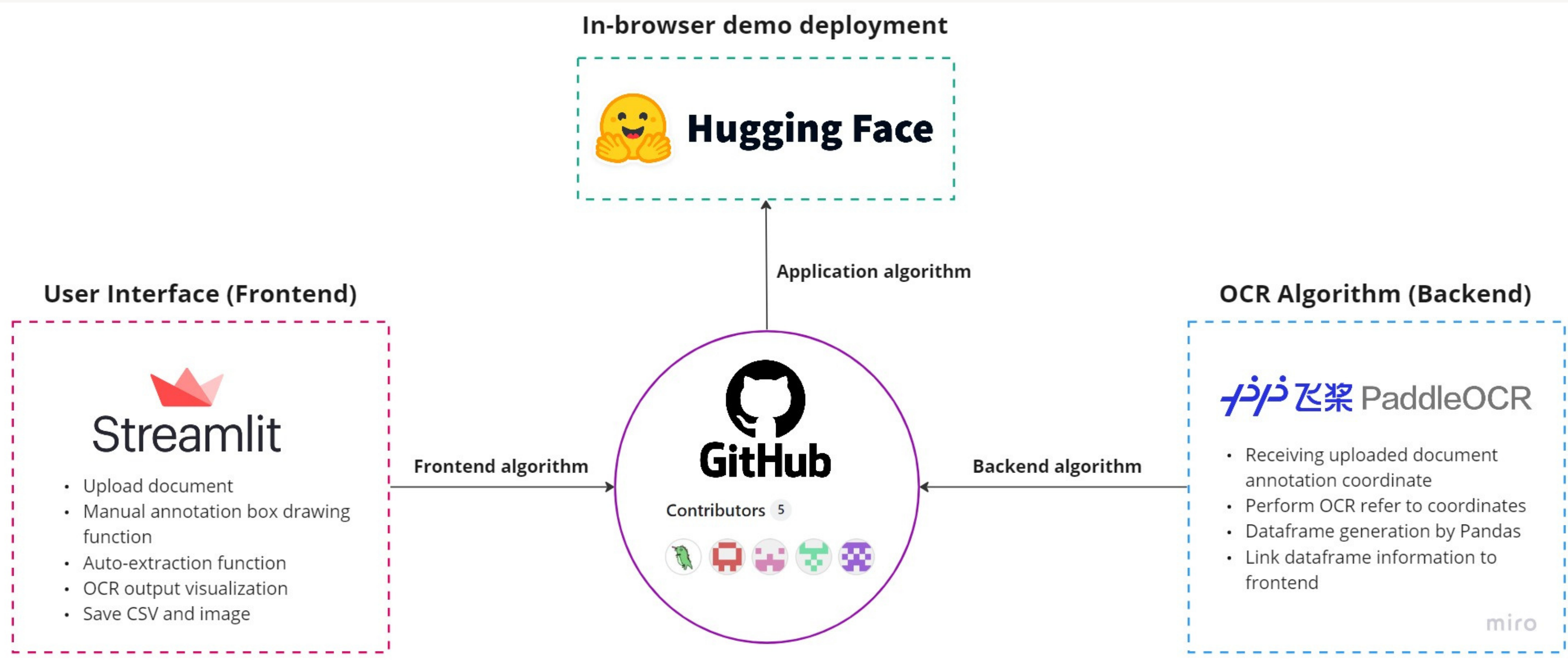


3. Get CSV file and
annotated image



03.

Overall system workflow





Demo

Don't worry. We've got you covered with the essential info.

The Ramsey Highlights

localhost:8501

Deploy

Plato - OCR Web App

Template Option

Select an option:

Manual labelling

Auto-extraction

Input template

Input file

Upload a file:

Drag and drop file here

Limit 200MB per file • PDF, PNG, JPG, JPEG

Browse files

Files

GCA.pdf

Total files: 1

Work Space

Current File: GCA.pdf

Name:	XXX, XXX	OD	OS	
ID:	12345678	Exam Date:	10/20/2023	10/20/2023
DOB:	1/1/2000	Exam Time:	9:56 AM	9:57 AM
Gender:	Male	Serial Number:	5000-19931	5000-19931
Technician:	Operator, Cirrus	Signal Strength:	10/10	10/10

Ganglion Cell OU Analysis: Macular Cube 512x128

OD

OS

OD Thickness Map

Fovea: 247, 68

OS Thickness Map

Fovea: 254, 66

OD Deviation Map

OD Sectors

OS Sectors

OS Deviation Map

✕

Plato - OCR Web App 🌐

Template Option

Select an option:

☐ Manual labelling

☒ Auto-extraction

Select the template:

individual info

Input file

Upload a file:

Drag and drop file here

Limit 200MB per file • PDF, PNG, JPG, JPEG

Browse files

Files

GCA.pdf

Total files: 4

Work Space

Current File: GCA.pdf

Name	XXX, XXX	OD	OS	
ID	12345678	Exam Date	10/20/2023	10/20/2023
DOB	1/1/2000	Exam Time	9:56 AM	9:57 AM
Gender	Male	Serial Number	5000-19931	5000-19931
Technician	Operator, Citrus	Signal Strength	10/10	10/10

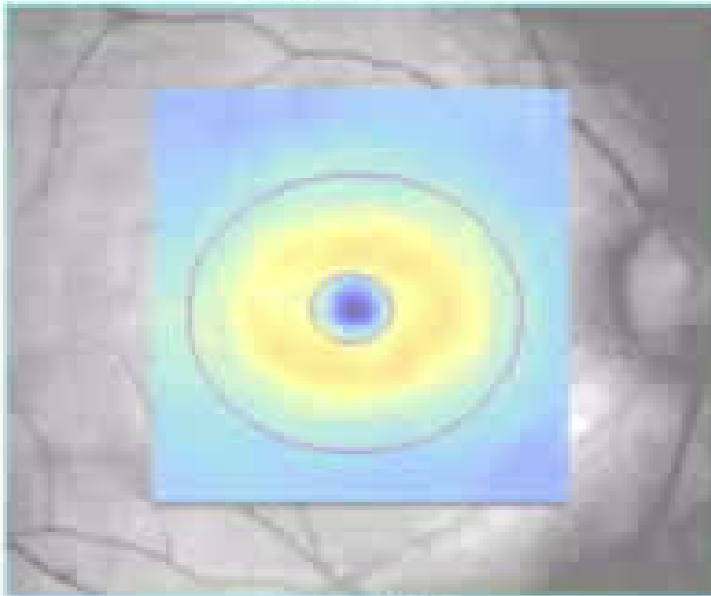
ZEISS

Ganglion Cell OU Analysis: Macular Cube 512x128

OD

OS

OD Thickness Map



225

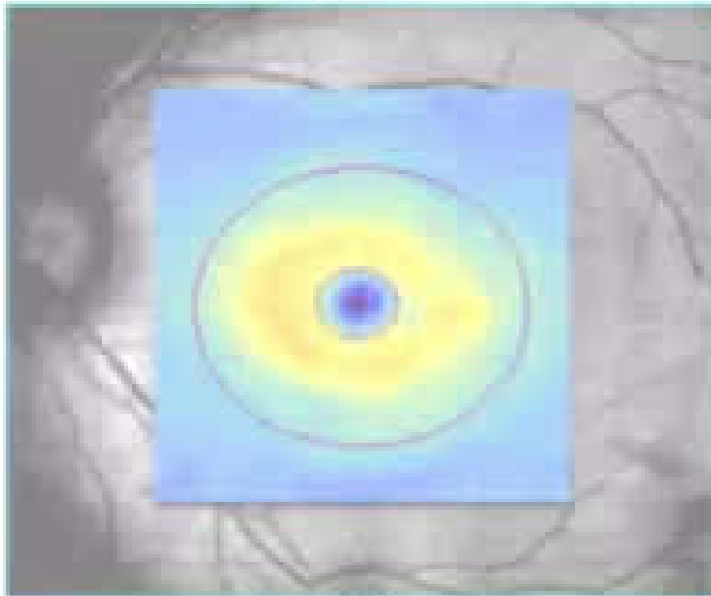
150

75

0 μ m

Fovea: 247, 68

OS Thickness Map



225

150

75

0 μ m

Fovea: 254, 68

OD Deviation Map

OD Sectors

OS Sectors

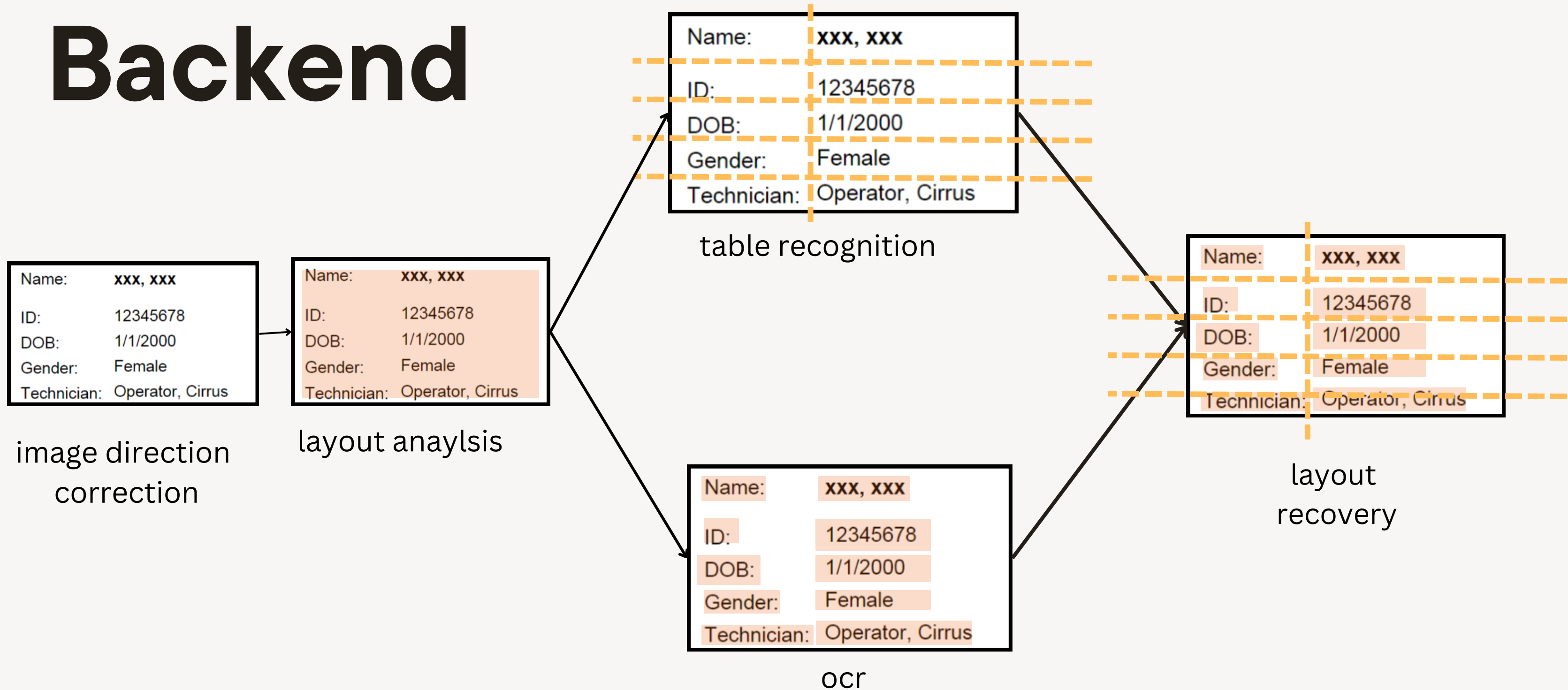
OS Deviation Map



OCR Algorithm

OCR Algorithm explanation

Backend



Input image

output of model

ID:	12345678
-----	----------

	box_0_0	box_0_1
ID:		12,345,678

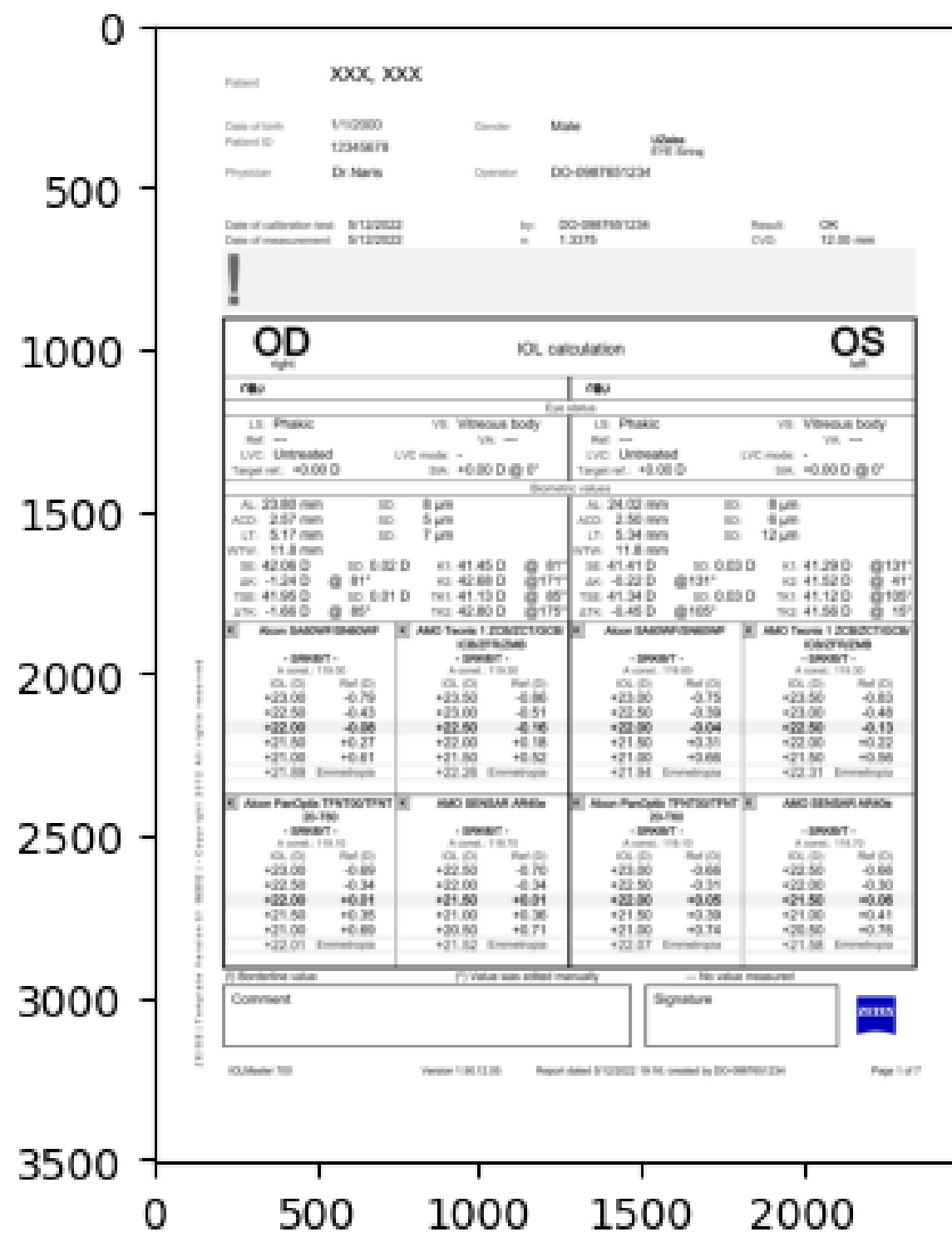
	OD	OS	
Exam Date:	3/17/2022	3/17/2022	CZMI
Exam Time:	8:09 AM	8:14 AM	
Serial Number:	5000-19931	5000-19931	
Signal Strength:	10/10	10/10	

	box_1_0	box_1_1	box_1_2	box_1_3
	None	OD	os	None
Exam Date:	3/17/2022	3/17/2022	CZMI	
Exam Time:	8:09AM	8:14 AM	None	
Serial Number:	5000-19931	5000-19931	None	
Signal Strength:	10/10	10/10	None	

	OD μm	OS μm
Average GCL + IPL Thickness	80	82
Minimum GCL + IPL Thickness	62	52

	box_2_0	box_2_1	box_2_2
	None	OD m	OS m
Average GCL+IPL Thickness	80	82	
Minimum GCL+IPLThickness	62	52	

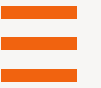
Input image



output of model

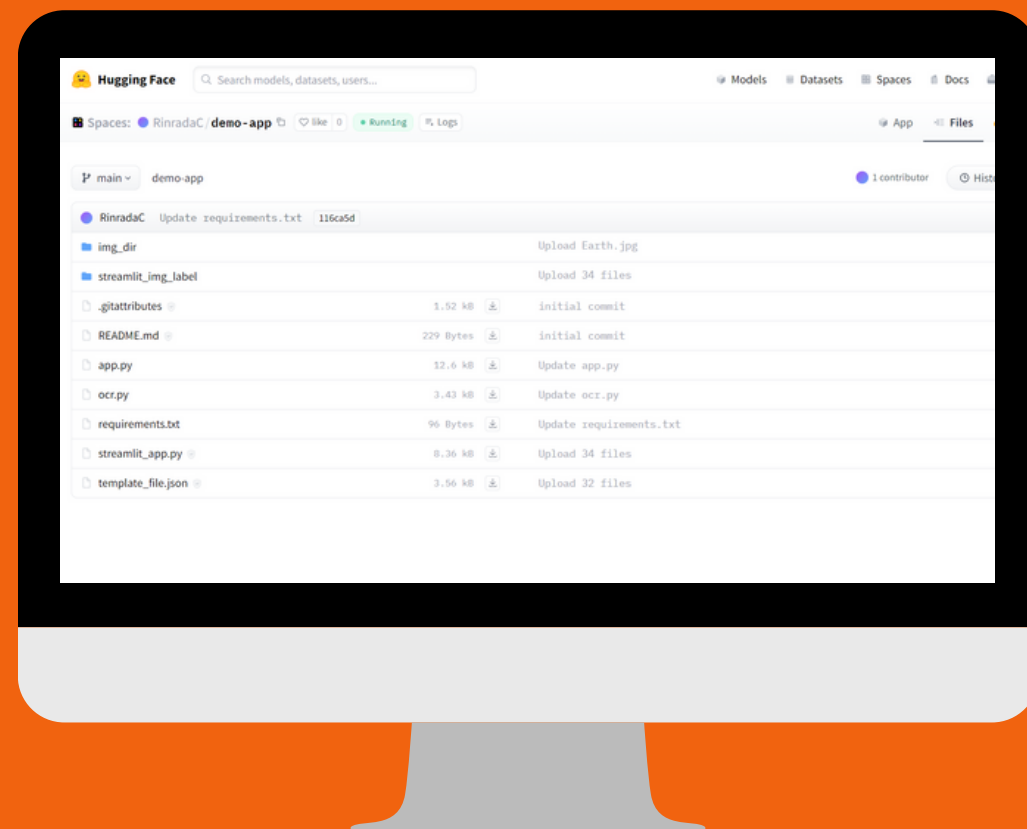
	Patient	Surname xxx, Firstname	None	oam
	Date of birth Patient ID	dd/mm/yyyy 1234567	Gender Female	***CHECK***
	Physician	Dr. Natthawut	Operator DO-0987651234	By
	Date of calibration test:.	20/10/2023	None	Result: OK
	Date of measurement:.	20/10/2023	by: n: 1.3375	DO-098765123
	-	None	None	None
	OD	None	None	OS
	right	None	IOL calculation	None
	(O)	None	None	None
	LS: Phakic	None	(O) Eye status	left
	Ref: ---	None	vs: Vitreous body	LS: Phakic
	LVC: Untreated	None	VA: --- Ref: ---	Vs: Vitreous bo
	Target ref.: +0.00 D	LVC mode: - SIA: +0.00 f	None	LVC: Untreated
	None	None	None	Target ref.: +0.0
	AL: 23.39 mm	SD: 19 m	Biometric values	None
	ACD: 3.27 mm	6 m SD:	None	AL: 23.38 mm S
	LT:4.52 mm	12 m SD:	LT:	ACD: 3.17 mm S
	WTW:12.0 mm	None	WTW:	10 m SD: 12.0 r
	SE: 43.71 D	SD: 0.01 D K1: 43.60 D	@102	SE: 43.69 D SD:
	AK-0.23 D	@102 K2: 43.83 D	12 @	AK: -0.30 D @1
	TSE: 43.69 D	SD: 0.04 D TK1: 43.47 D	@ 97	TSE: 43.78 D S
	ATK: -0.45 D	@ 97 TK2: 43.92 D	@ 7	ATK: -0.44 D @
	K Alcon AcrySof MA60AC	K	Alcon Toric SN6AT(2-9) K	Alcon AcrySof I
	- SRKO/T -	None	None	None
	A const.: 119.20	None	- SRKO/T - A const.: 119.20	- SRKO/T -- SR
	IOL (D)	Ref (D) IOL (D)	Ref (D)	A const.: 119.20
	+22.50 +22.00	-0.57 +22.50	-0.57	Ref (D) IOL (D) I
	+21.50	-0.23 +22.00	-0.23	-0.53 +22.00 -0.
	+21.00	+0.11 +21.50	+0.11	+21.50 +0.15 +;
	+20.50	+0.44 +21.00	+0.44	+21.00 +0.48 +;
	+21.66	+0.77 +20.50	+0.77	+20.50 +0.81 +;
	None	Emmetropia +21.66	Emmetropia	+21.72 Emmet

Hugging Face

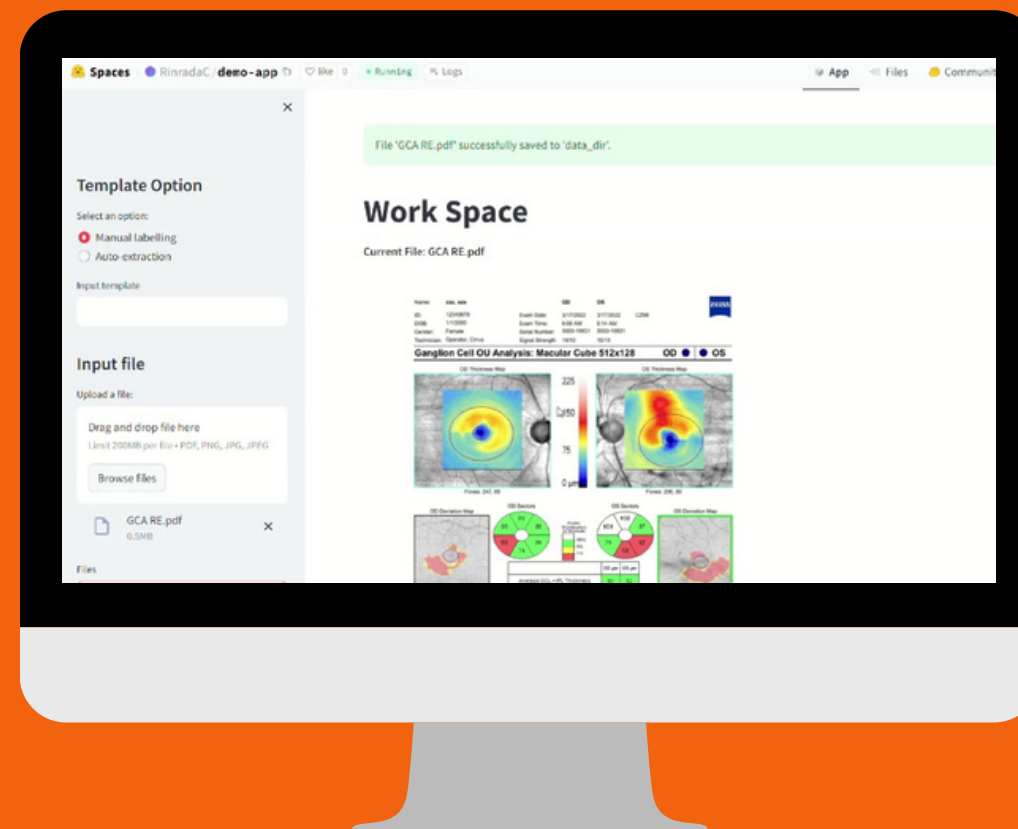


 <https://huggingface.co/spaces/RinradaC/demo-app>

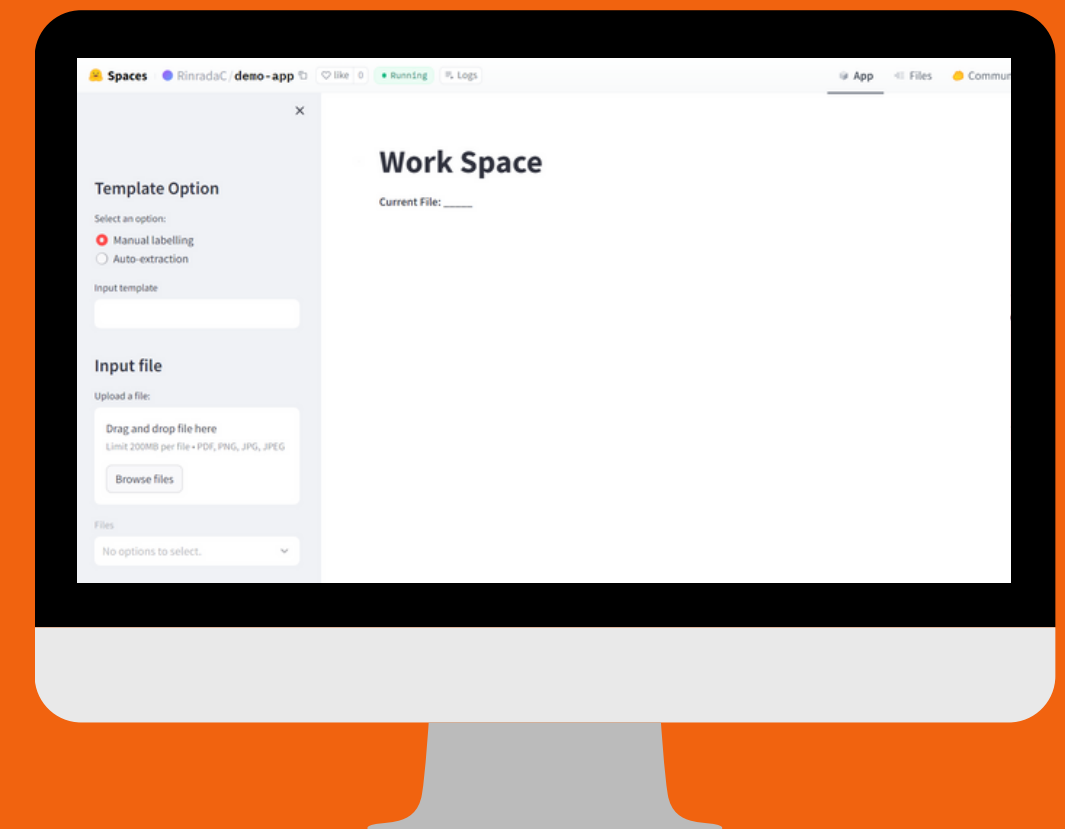
1. Upload files and set the library's requirements.



2. Building & running the web application



3. Web application available for users



03.



Problems & Solution

Problems & Solution



● Optical Character Recognition (OCR) algorithm

Problem:

- Failed to understand the significance of the picture and word annotations in context – causes problems with dataframe pattern creation

Solution:

- To increase comprehension of OCR algorithms and achieve header recognition, more sophisticated systems and algorithm improvements were made.

● Deployment

Problem:

- Streamlit has a limitation to implement and be capable with all computers of the user as users need to install all libraries and packages to run the software

Solution:

- Utilized Hugging Face platform, access and use the software without the needs of manual libraries and packages installation.

● Integration of front-end and back end session

Problem:

- It is often required to debug and find errors in the program. As various units use different libraries

Solution:

- Utilizes GitHub as a central location to submit the modified algorithm and receive feedback on it to guide future modifications.



Future Development

Future Development



1

Incorporating GPU acceleration to reduce processing times and increase computational performance.

2

Deploy the program on a private cloud to store data since it will be stored in a private ecosystem.

3

The user interface and OCR algorithm might be further enhanced in terms of greater accuracy and user-friendliness.



Team members

Our executive team



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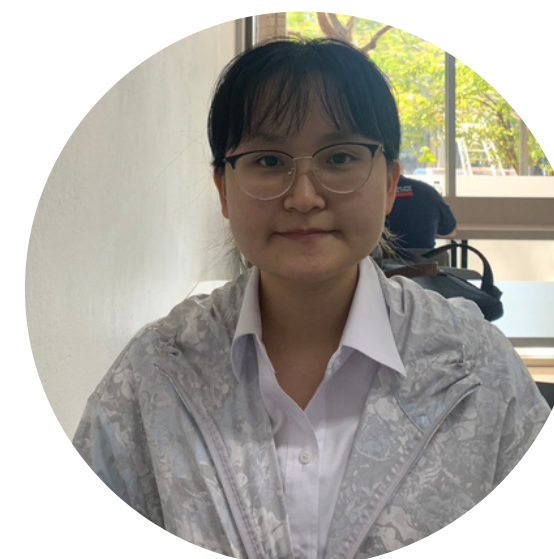
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