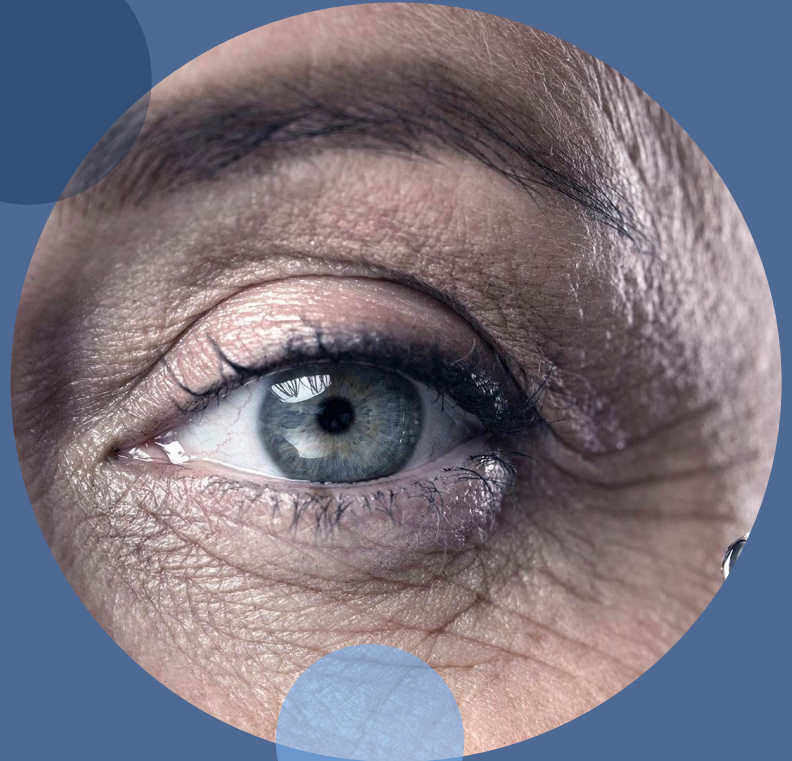


AI Diabetic Retinopathy Assistant



MOTIVATION

Prevalence

Diabetic retinopathy (DR) [1]:
103M

Impact

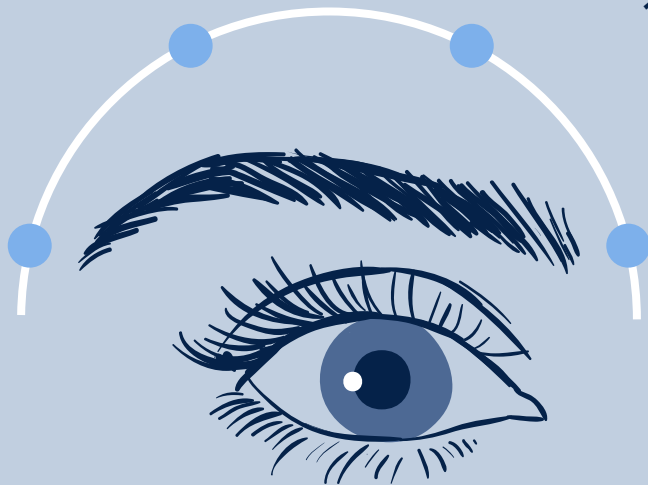
Blind people had blindness
due to DR [2]:
1 out of 40

Clinic relevance

Global population with
diabetes mellitus[1]:
463M

Ophthalmologists

Globally there are **0.44**
ophthalmologists per
1.000 population with
DR [3].



[1] Z. Teo et al., "Global Prevalence of Diabetic Retinopathy and Projection of Burden through 2045", 2021.

[2] J. Leasher et al., "Global Estimates on the Number of People Blind or Visually Impaired by Diabetic Retinopathy: A Meta-analysis From 1990 to 2010", 2021.

[3] Z. Teo, Y. Tham, M. Yu, C. Cheng, T. Wong and C. Sabanayagam, "Do we have enough ophthalmologists to manage vision-threatening diabetic retinopathy? A global perspective", 2021.

DATASET



0 - No DR
(15.400 images)



1 - Mild
(7.700 images)



2 - Severe
(1.500 images)

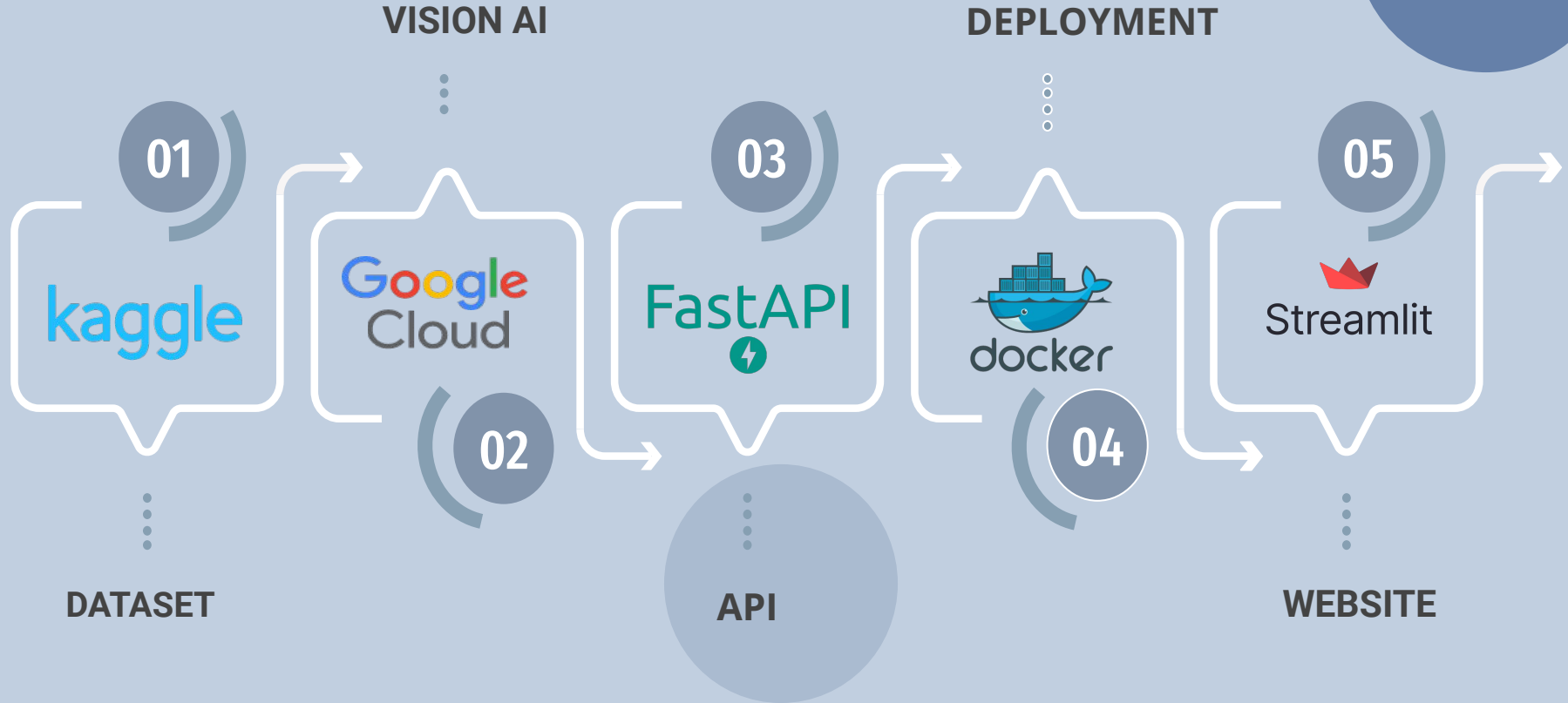
Source: Kaggle Dataset - Diabetic Retinopathy Arranged
Retina Images with class labels for Classification [4]

GOAL

To **help in the diagnosis** of DR in places where there are few ophthalmologists with an **online platform** to upload retina images.



WORKFLOW



RESULTS

Metrics

- Precision: **76%**
- Recall: **73%**

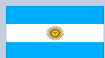
Confusion Matrix

	No DR	Mild	Severe
No DR	92%	7%	0%
Mild	53%	45%	3%
Severe	11%	42%	47%

TEAM



Martin Morcos



Leonardo Torres



Nicolás Núñez





¡DEMO!

<https://diabetic-retinopathy-dl.herokuapp.com/>



AI Diabetic Retinopathy Assistant

