

**Table 1. Widely used datasets of lesion detection/segmentation and DR diagnosis/grading**

Dataset name	Number of images	Resolution	Camera	Availability
DIARETDB0	130 (110 DR, 20 Normal)	-	digital fundus cameras with unknown camera settings, FVO 50°	<a href="#">available online</a> <sup>1</sup>
DIARETDB1	89 (84 DR, 5 Normal)	1500×1152	ZEISS FF 450plus fundus camera with Nikon F5 digital camera, FOV 50°	<a href="#">available online</a> <sup>2</sup>
Retinopathy Online Challenge	100	-	a Topcon NW 100, a Topcon NW 200, or a CanonCR5-45NM, 2 differently shaped FOVs	<a href="#">available on registration</a> <sup>3</sup>
RC-RGB-MA	250	2595×1944	a DRS non-mydratic fundus camera, FOV45°	<a href="#">available online</a> <sup>4</sup>
RC-SLO-MA	58	1024×1024	an EasyScan camera (i-Optics Inc., the Netherlands), FOV45°	<a href="#">available online</a> <sup>5</sup>
IDRiD	516	4288×2848	a Kowa VX-10 alpha digital fundus camera, FOV 50°	<a href="#">available online</a> <sup>6</sup>
Messidor	1200	1440×960, 2240×1488, 2304×1536	a color video 3CCD camera on a Topcon TRC NW6 non-mydratic retinograph with FOV 45°	<a href="#">available on registration</a> <sup>7</sup>
Messidor-2	1748	1440×960, 2240×1488, 2304×1536	a Topcon TRC NW6 non-mydratic fundus camera with FOV 45°	<a href="#">available on registration</a> <sup>8</sup>
e-optha EX	47 with 12,278 exudates, 35 healthy	ranging from 1440×960 to 2544×1696	-	<a href="#">available on registration</a> <sup>9</sup>
e-optha MA	148 with 1306 MA, 233 healthy	ranging from 1440×960 to 2544×1696	-	<a href="#">available on registration</a> <sup>10</sup>
DDR	13,673	mixed	42 types of fundus cameras with a 45°FOV	<a href="#">available online</a> <sup>11</sup>
Kaggle/EyeP	35,126 train,	mixed	multiple fundus cameras and different fields of views	<a href="#">available on registration</a> <sup>12</sup>
ACS	53,576 test	-	multiple fundus cameras	not available online
CLEOPATRA	298	-	-	not available online
APTOS 2019	13,000	-	-	<a href="#">available online</a> <sup>13</sup>

1<https://www.it.lut.fi/project/imageret/>

2<https://www.it.lut.fi/project/imageret/>

3<http://webeye.ophth.uiowa.edu/ROC/>

4<http://www.retinacheck.org/datasets>

5<http://www.retinacheck.org/datasets>

6<https://ieee-dataport.org/open-access/indian-diabetic-retinopathy-image-dataset-idrid>

7<http://www.adcis.net/en/third-party/messidor/>

8<http://www.adcis.net/en/third-party/messidor2/>

9<http://www.adcis.net/en/third-party/e-optha/>

10<http://www.adcis.net/en/third-party/e-optha/>

11<https://github.com/nkic1/DDR-dataset>

12<https://www.kaggle.com/c/diabetic-retinopathy-detection/data>

13<https://www.kaggle.com/c/aptos2019-blindness-detection/data>

**Table 2. Widely used datasets for vessel segmentation**

Dataset name	Number of images	Resolution	Camera	Availability
DRIVE	40 (33 healthy, 7 mild early DR)	768×584	a Canon CR5 non-mydratic 3CCD camera, FOV 45°	<a href="#">available on registration</a> <sup>1</sup>
STARE	400 (vessel segmentation labeling of 40 , A/V labeling of 10)	700 × 605	a TopCon TRV-50 fundus camera, FOV35°	<a href="#">available online</a> <sup>2</sup>
CHASE DB1	28	1280× 960	-	<a href="#">available online</a> <sup>3</sup>
HRF	45, 15 each of healthy, DR and glaucomatous	3504 × 2336	a Canon CR-1 fundus camera with FOV 45°	<a href="#">available online</a> <sup>4</sup>

1<https://drive.grand-challenge.org/Download/>

2<http://cecas.clemson.edu/~ahoover/stare/>

3<https://blogs.kingston.ac.uk/retinal/chasedb1/>

4<http://www5.cs.fau.de/research/data/fundus-images/>

**Table 3. Widely used datasets for OD/OC segmentation and glaucoma diagnosis/grading**

Dataset name	Number of images	Resolution	Camera	Availability
ONHSD	100	640×480	a Canon CR6 45MNf fundus camera, FOV 45°	<a href="#">available online</a> <sup>1</sup>
Drishti-GS	101	2896×1944	a fundus camera with FOV 30°	<a href="#">available online</a> <sup>2</sup>
Drions-DB	110	600×400	a colour analogical fundus camera	<a href="#">available online</a> <sup>3</sup>
ORIGA	650 (168 glaucomatous, 482 normal)	3072×2048	-	not available online
RIGA	750	ranging from 2240×1488 to 2743×1936	multiple fundus cameras with different FOV	<a href="#">available online</a> <sup>4</sup>
RIM-ONE	169 ONH	-	a fundus camera Nidek AFC-210 with a body of a Canon EOS 5D Mark II of 21.1 megapixels	not available online
ACHIKO-K	258 (144 glaucomatic)	640 × 480; 2144×1424; 3216×2136,	NIKON D80, NIKON D90	available online <sup>5</sup>

		etc		
SEED	235 (43 glaucoma)	-	-	not available online
REFUGE	1200	2124×2056, 1634×1634	a Zeiss Visucam 500 fundus camera and a Canon CR-2 device	<a href="#">available on registration</a> <sup>6</sup>
SCES	1676	3072×2048	-	not available online
SINDI	5783	3072×2048	-	not available online
LAG	11,760 (6882 glaucoma)	ranging from 582 × 597 to 3456 × 5184	3 types of devices: Topcon, Canon and Carl Zeiss	<a href="#">available online</a> <sup>7</sup>
SIGF	3671	-	-	<a href="#">available on registration</a> <sup>8</sup>

1<http://www.aldiri.info/Image%20Datasets/ONHSD.aspx>

2<http://cvit.iit.ac.in/projects/mip/drishti-gs/mip-dataset2/Home.php>

3[https://www.researchgate.net/publication/326460478\\_Glaucoma\\_dataset\\_-\\_DRIONS-DB](https://www.researchgate.net/publication/326460478_Glaucoma_dataset_-_DRIONS-DB)

4[https://deepblue.lib.umich.edu/data/concern/data\\_sets/3b591905z/](https://deepblue.lib.umich.edu/data/concern/data_sets/3b591905z/)

5<https://oar.a-star.edu.sg/jspui/handle/123456789/1080?mode=full>

6<https://refuge.grand-challenge.org/>

7<https://github.com/smilell/AG-CNN>

8<https://github.com/XiaofeiWang2018/DeepGF>

**Table 4. Widely used datasets for AMD diagnosis/grading**

Dataset name	Number of images	Resolution	Camera	Availability
AREDS	Over 206,500 images	-	-	<a href="#">available online</a> <sup>1</sup>
iChallenge-AMD	1200	-	-	<a href="#">available on registration</a> <sup>2</sup>
KORA	images from 2840 individuals	-	-	<a href="#">available online</a> <sup>3</sup>

1[https://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/study.cgi?study\\_id=phs000001.v3.p1](https://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/study.cgi?study_id=phs000001.v3.p1)

2<http://ai.baidu.com/broad/introduction?dataset=amd>

3<https://epi.helmholtz-muenchen.de/>

**Table 5. Widely used datasets for other tasks**

Dataset name	Task	Number of images	Resolution	Camera	Availability
ODIR	Multiple-disease	Over 10,000 images	mixed	various cameras including Canon, Zeiss and Kowa	<a href="#">available online</a> <sup>1</sup>
PALM	Pathological myopia	-	-	-	<a href="#">available on registration</a> <sup>2</sup>
FIRE	Image Registration	129	2912x2912	a Nidek AFC-210 fundus camera, FOV of 45°	<a href="#">available online</a> <sup>3</sup>

1<https://github.com/nkicsl/OIA-ODIR>

2<https://palm.grand-challenge.org/>

3<https://projects.ics.forth.gr/cvrl/fire/>