DEEP IN SIGHT

Dataset Summary

1. Gaze_Dataset 개요

No.	Dataset Name	Official URL	IP / DIR Path
1	MpiiGaze	https://www.mpi-inf.mpg.de/departments/computer-vision-and-machine-learning/research/gaze-based-human-computer-interaction/appearance-based-gaze-estimation-in-the-wild	192.168.0.128:5002(Synology) /DataBase/mpiigaze
2	Gaze360	http://gaze360.csail.mit.edu	192.168.0.128:5002(Synology) /DataBase/gaze360-normalized
3	GazeCapture	https://gazecapture.csail.mit.edu/	192.168.0.128:5002(Synology) /DataBase/GazeCapture
4	RT-GENE	https://zenodo.org/records/2529036	192.168.0.128:5002(Synology) /DataBase/RT_GENE
5	ETH-Xgaze	https://ait.ethz.ch/xgaze	192.168.0.128:5002(Synology) /DataBase/ETH-Xgaze
6	ETH-gaze	404 error	
7	GI4E	https://www.unavarra.es/gi4e/databases/gi4e/?languageId=1	192.168.0.128:5002(Synology) /DataBase/GI4E
8	U2eyes	https://www.unavarra.es/gi4e/databases/u2eyes	192.168.0.128:5002(Synology) /DataBase/U2Eyes
9	TeyeD_Dikablis	https://www.v7labs.com/open-datasets/teyed	192.168.0.128:5002(Synology) /DataBase/TeyeD_Dikablis
10	TeyeD_GazeinTheWild	https://www.v7labs.com/open-datasets/teyed	192.168.0.128:5002(Synology) /DataBase//TEyeD_GazeinTheWild
11	Eye Gaze(Kaggle)	https://www.kaggle.com/datasets/4quant/eye-gaze	192.168.0.128:5002(Synology) /DataBase/Kaggle_Eye_Gaze
12	Sysnthetic Human Eyes(Kaggle)	https://www.kaggle.com/datasets/allexmendes/synthetic-human-eyes	192.168.0.128:5002(Synology) /DataBase/Sysnthetic_Human_Eyes
13	RIT-Eyes	https://cs.rit.edu/~cgaplab/RIT-Eyes/	192.168.0.128:5002(Synology) /DataBase/RIT_Eyes
14	NVGaze	https://sites.google.com/nvidia.com/nvgaze	192.168.0.128:5002(Synology) /DataBase/NVGaze
15	SYNTHESEYES	https://www.cl.cam.ac.uk/research/rainbow/projects/syntheseyes/	192.168.0.128:5002(Synology) /DataBase/SynthesEyes

1. Gaze_Dataset 개요

No.	Dataset Name	Official URL	IP / DIR Path
16	UNITYEYES	https://www.cl.cam.ac.uk/research/rainbow/projects/unityeyes/	192.168.0.128:5002(Synology) /DataBase/UnityEyes
17	UTMULTIVIEW	https://www.ut-vision.org/datasets/	192.168.0.128:5002(Synology) /DataBase/UTMULTIVIEW
18	EYEDIAP	https://www.idiap.ch/en/dataset/eyediap	대학소속 연구목적으로 요청 중
19	OpenEDS : Open Eye Dataset	https://fort.fb.com/researcher-datasets	대학소속 연구목적으로 요청 중
20	ShanghaiTechGaze	https://github.com/dongzelian/multi-view-gaze	192.168.0.128:5002(Synology) /DataBase//shanghaiTechGaze

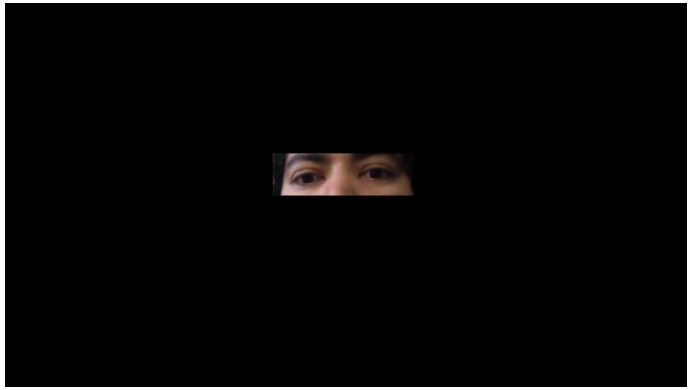
Annotation 분류

No.	**Annotation**
1	Gaze_Dataset
2	FaceLandmark_Dataset
3	BoundingBox_Dataset
4	

1) Gaze_Data EDA

- 1. MpiiGaze

Original



Crop

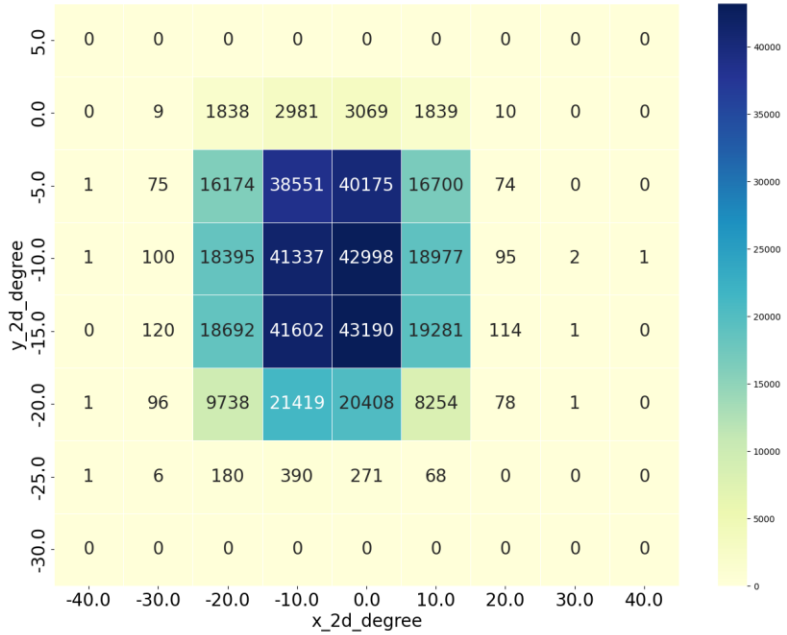
Annotation

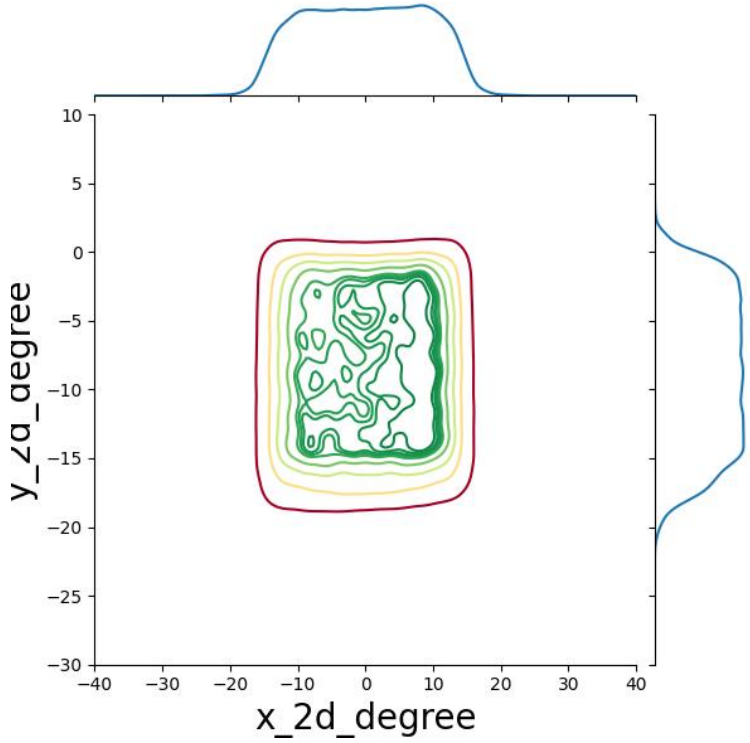
Name	MpiiGaze
Official URL	https://www.mpi-inf.mpg.de/departments/computer-vision-and-machine-learning/research/gaze-based-human-computer-interaction/appearance-based-gaze-estimation-in-the-wild
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/mpiigaze
Volume	213,658 (Original) 427,316 (Crop)
Type	RGB real images (Original) Gray Scale images (Crop)
Relevant URL	1. https://phi-ai.buaa.edu.cn/Gazehub/3D-dataset/#mpiifacegaze 2. https://phi-ai.buaa.edu.cn/Gazehub/Guideline/EyeBased/MPIIGaze.pdf
Annotation	**3D_Gaze(rad)** - Ground truth of normalized 3D gaze direction vector **3D_Head** - Ground truth of normalized 3D head orientation vector. **2D_Gaze(rad)** - Ground truth of normalized 2D gaze direction vector **2D_Head** - Ground truth of normalized 2D head orientation vector **Rmat** - Rotation vector from original Camera Coordinate System (CCS) to the normalized CCS **Smat** - The diagonal elements of the scale matrix used in the normalization procedure **Gaze_Origin** - Origin of 3D gaze vector in the normalized CCS
Image format	JPG
Label format	Mat (Original) Label (Crop)
Resolution	1280 X 720 (Original) 60 X 36 (Crop)

1) Gaze_Data EDA

- 1. MpiiGaze

- 분석(1) 양안(Eye_gaze)



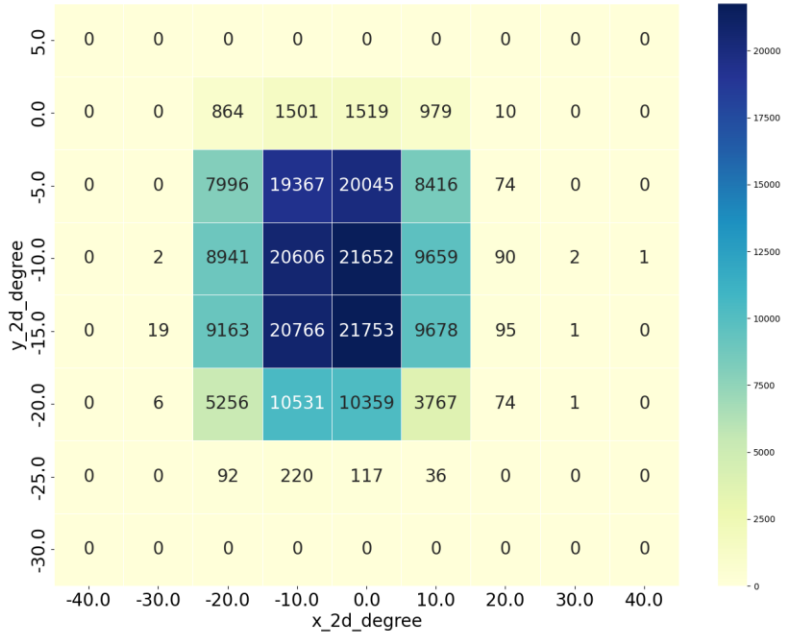


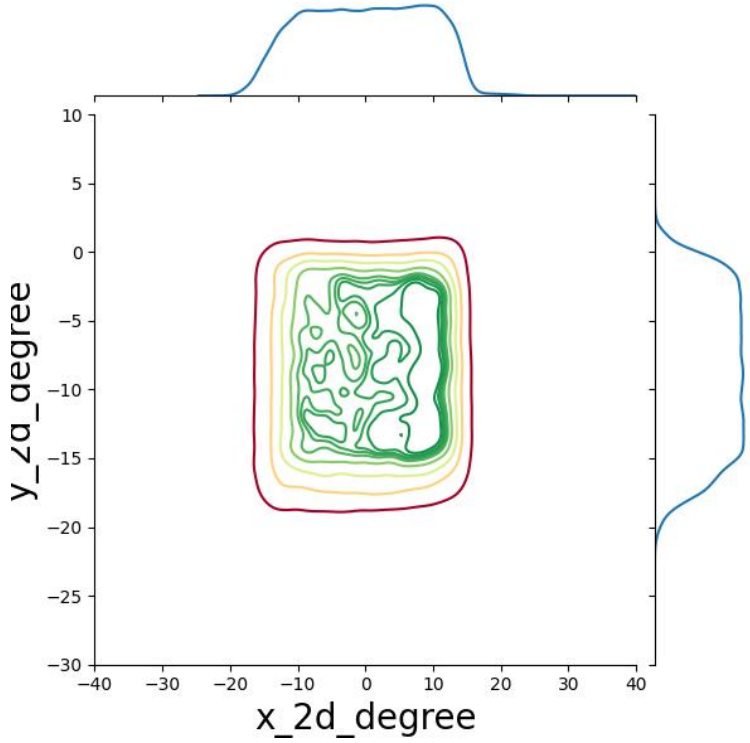
- 2D_vector = degree
- 정면을 기준으로 아래쪽을 바라보는 데이터 위주로 구성됨

1) Gaze_Data EDA

- 1. MpiiGaze

- 분석(2) 좌안(Eye_gaze)



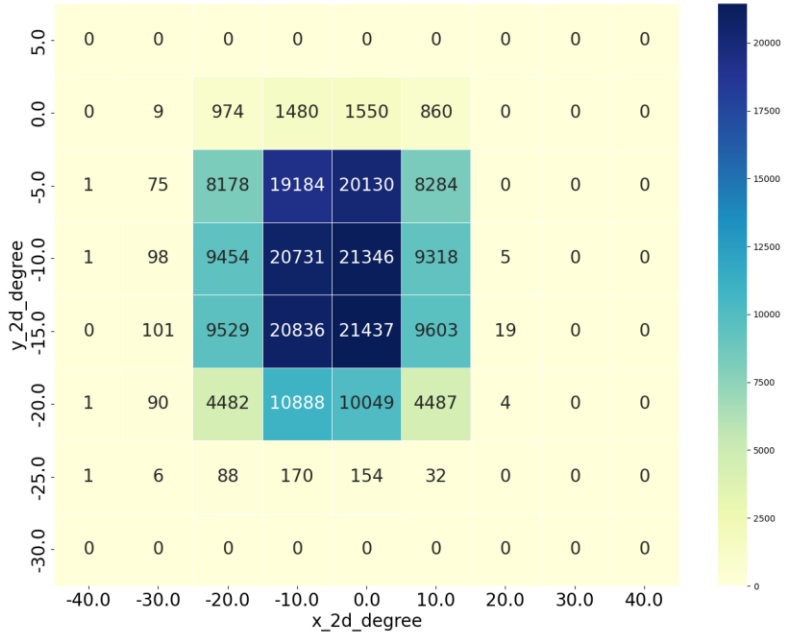


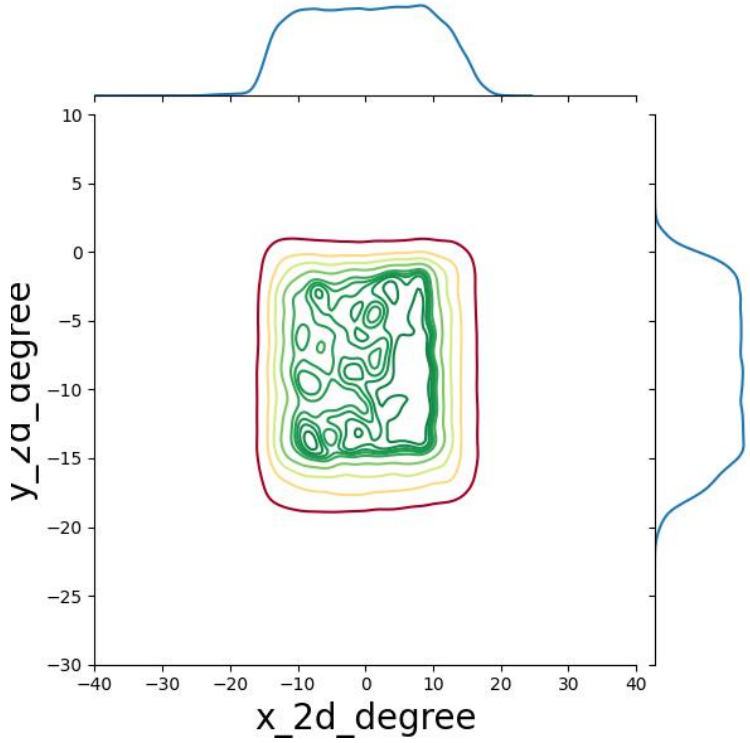
- 2D_vector = degree
- 정면을 기준으로 아래쪽을 바라보는 데이터 위주로 구성됨

1) Gaze_Data EDA

- 1. MpiiGaze

- 분석(3) 우안(Eye_gaze)





- 2D_vector = degree
- 정면을 기준으로 아래쪽을 바라보는 데이터 위주로 구성됨

1) Gaze_Data EDA

- 1. MpiiGaze

- 분석(4) headpose

- 2D_vector = degree
- 정면을 기준으로 아래쪽을 바라보는 데이터 위주로 구성됨

1) Gaze_Data EDA

- 1. MpiiGaze

- 특이사항

```
if which_eye == "left":
    pass
else:
    im_eye = cv2.flip(im_eye, 1)
    gaze = dpc.GazeFlip(gaze)
    head = dpc.HeadFlip(head)
    origin[0] = -origin[0]
gaze_2d = dpc.GazeTo2d(gaze)
head_2d = dpc.HeadTo2d(head)

rvec, svec = norm.GetParams()
```

우측 눈 이미지와 우측 눈의 각 수치들이 좌우 반전

1) Gaze_Data EDA

- 2. Gaze360

Original

Name	Gaze360
Official URL	http://gaze360.csail.mit.edu
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/gaze360-normalized
Volume	124,831 images (Face cropped)
Type	RGB real images (Face cropped)
Relavant URL	1. https://openaccess.thecvf.com/content_ICCV_2019/papers/Kellnhofer_Gaze360_Physically_Unconstrained_Gaze_Estimation_in_the_Wild_ICCV_2019_paper.pdf 2. https://phi-ai.buaa.edu.cn/Gazehub/3D-dataset/#gaze360
Annotation	**3DGaze** - Ground truth of 3D gaze direction vector. **2DGaze** - Ground truth of 2D gaze direction vector i.e. yaw and pitch.
Image format	JPG
Label format	Label
Resolution	224 X 224

1) Gaze_Data EDA

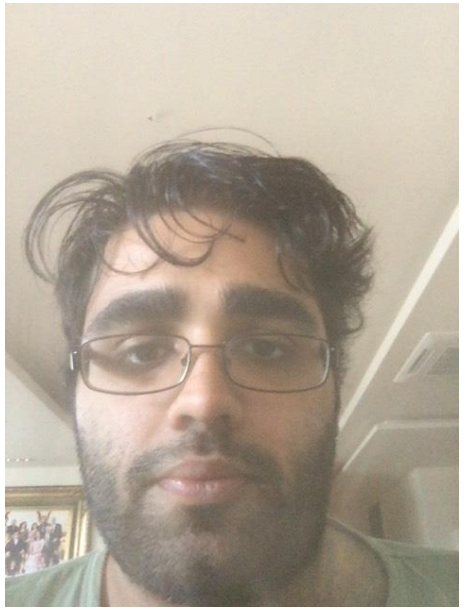
- 2. Gaze360

- 분석

1) Gaze_Data EDA

- 3. GazeCapture

Original

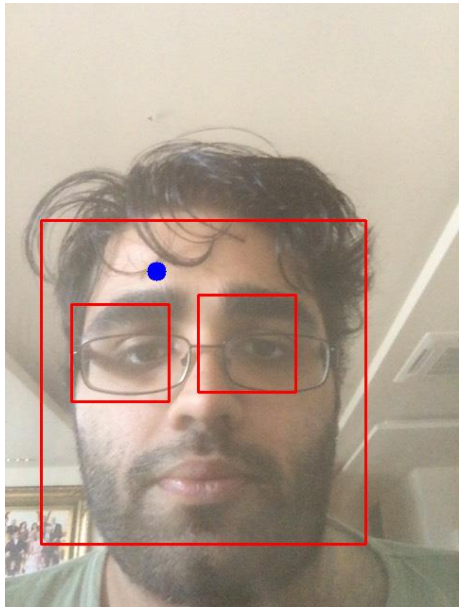


Name	GazeCapture
Official URL	https://gazecapture.csail.mit.edu/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/GaceCapture
Volume	2,445,504 images 1,474 ids
Type	RGB real images
Relavant URL	1. https://gazecapture.csail.mit.edu/cvpr2016_gazecapture.pdf 2. https://github.com/CSAILVision/GazeCapture
Image format	JPG
Label format	JSON
Resolution	Various Standards

1) Gaze_Data EDA

- 3. GazeCapture

Annotation



Annotation		
*Face.json	Face bbox (x, y, w, h)	It is relative to the top-left corner of the full frame (red box)
*Eye.json	eye bbox (x, y, w, h)	It is relative to the top-left corner of the face crop (red box)
dotInfo.json	Dot pts (x, y)	Position of the center of the dot (blue point)
	Dot cam (x, y)	Position of the center of the dot in prediction space. (unit: cm)
faceGrid.json	Face grid (x, y, w, h)	Position of the top-left corner of the face box (25 x 25)
Motion.json		A stream of motion data (accelerometer, gyroscope, and magnetometer)
Screen.json	Screen area (h, w)	Height and width of the active screen area of the app (in points)
	Orientation	1: portrait 2: portrait, upside down (iPad only) 3: landscape, with home button on the right 4: landscape, with home button on the left

- 특이사항

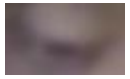
- bounding box와 앱 상에서 나타나는 포인트를 바라보는 방식으로 Gaze Angle을 계산해야 하는 Dataset으로 확인

1) Gaze_Data EDA

- 4. RT-GENE

Face

Left Eye

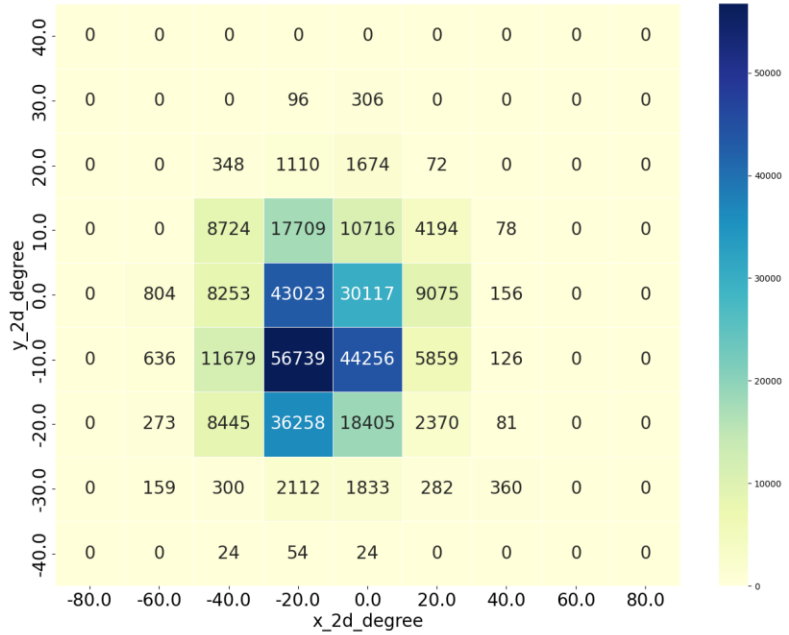


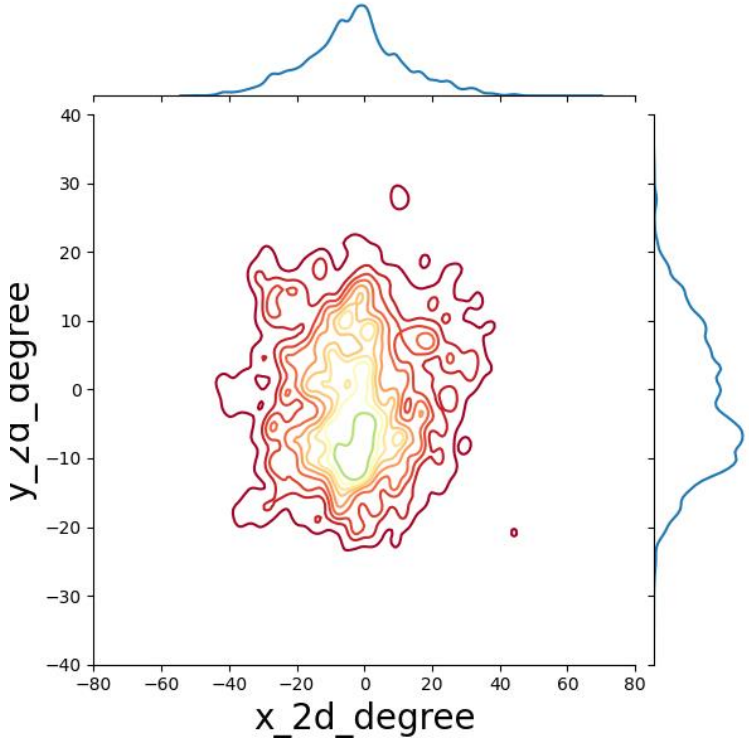
Right Eye

Name	RT-GENE
Official URL	https://zenodo.org/records/2529036
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/RT_GENE
Volume	326,895 (Face) 326,895 (Left eye) 326,895 (Right eye)
Type	Real RGB Images
Relavant URL	1. https://github.com/Tobias-Fischer/rt_gene 2. https://openaccess.thecvf.com/content_ECCV_2018/papers/Tobias_Fischer_RT-GENE_Real-Time_Eye_ECCV_2018_paper.pdf 3. https://openaccess.thecvf.com/content_ICCVW_2019/papers/GAZE/Cortacero_RT-BENE_A_Dataset_and_Baselines_for_Real-Time_Blink_Estimation_in_ICCVW_2019_paper.pdf
Annotation	**3D_Gaze(rad)** - Ground truth of normalized 3D gaze direction vector **3D_Head** - Ground truth of normalized 3D head orientation vector. **2D_Gaze(rad)** - Ground truth of normalized 2D gaze direction vector **2D_Head** - Ground truth of normalized 2D head orientation vector
Image format	png
Label format	label
Resolution	224 X 224

1) Gaze_Data EDA

- 4. RT-GENE





- 2D_vector = degree

1) Gaze_Data EDA

- 4. RT-GENE

  - 특이사항

  -

1) Gaze_Data EDA

- 5. ETH-Xgaze

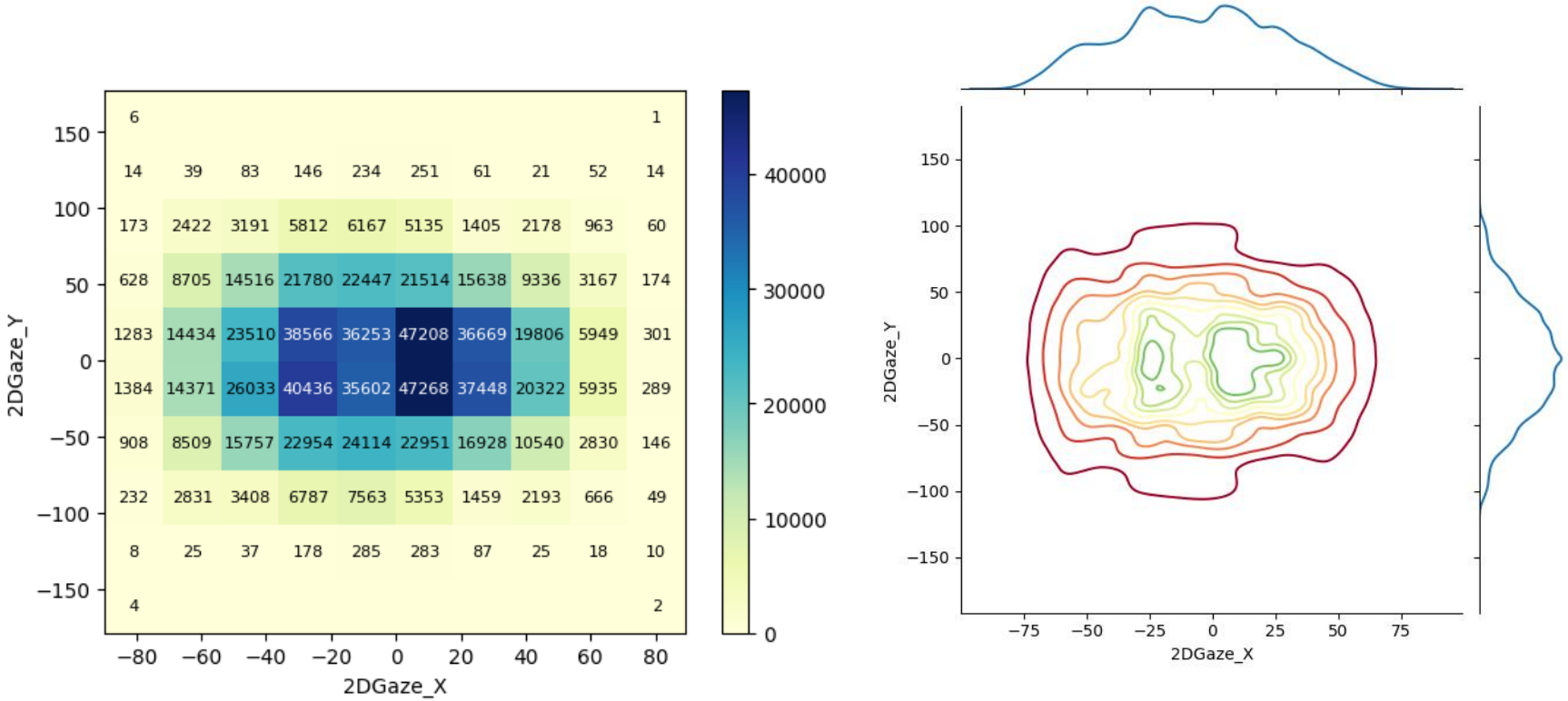
original

Annotation - Gaze

Name	ETH-Xgaze
Official URL	https://ait.ethz.ch/xgaze
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/ETH-Xgaze
Volume	Total 1083492 Id – 110
Type	RGB real image
Relavant URL	https://files.ait.ethz.ch/projects/xgaze/xucongzhang2020eccv.pdf
Annotation	- frame_index: the frame index of the image - cam_index: the camera index of the image range from 0 to 17 - face_patch: the face patch image with size of number of samples * 448 * 448 * 3 - face_mat_norm: the rotation matrix during data normalization - face_head_pose: the normalized head pose with size of 2 dimensions horizontal and vertical head rotations. - face_gaze: the normalized gaze direction with size of 2 dimensions as horizontal and vertical gaze directions.
Image format	jpg
Label format	h5, label
Resolution	448X448

1) Gaze_Data EDA

- 5. ETH-Xgaze



- 2D_vector = degree

1) Gaze_Data EDA

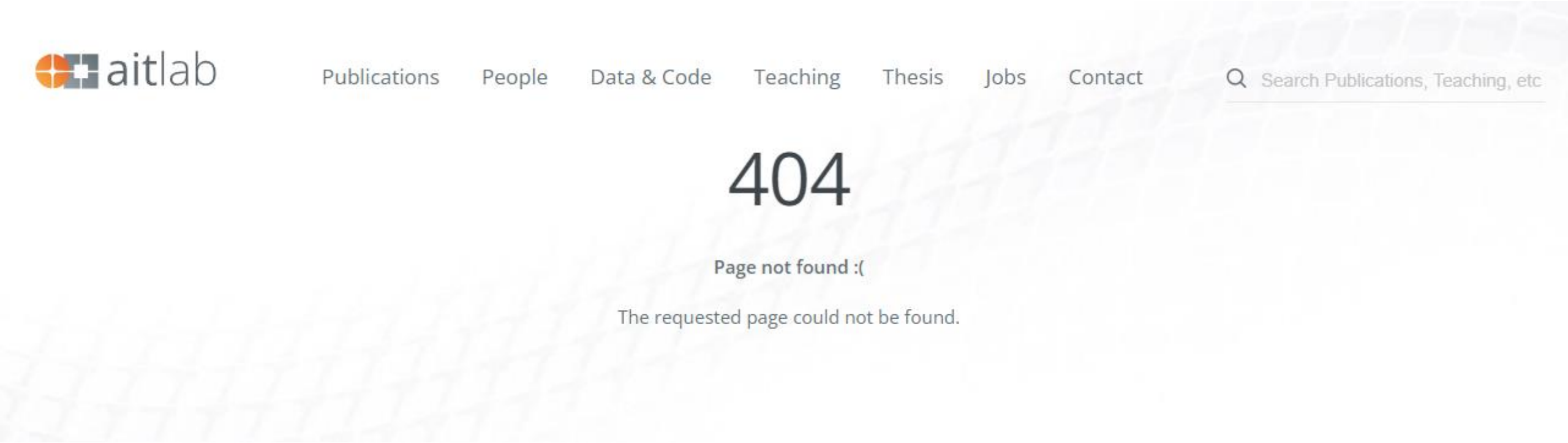
- 5. ETH-Xgaze

  - 테스트 데이터셋에는 gaze 라벨값이 들어있지 않아 train 데이터셋만 라벨링 진행

1) Gaze_Data EDA

- 6. ETH-gaze

- 특이사항



관련 페이지 탐색 불가 - 다른 경로로 탐색 필요

1) Gaze_Data EDA

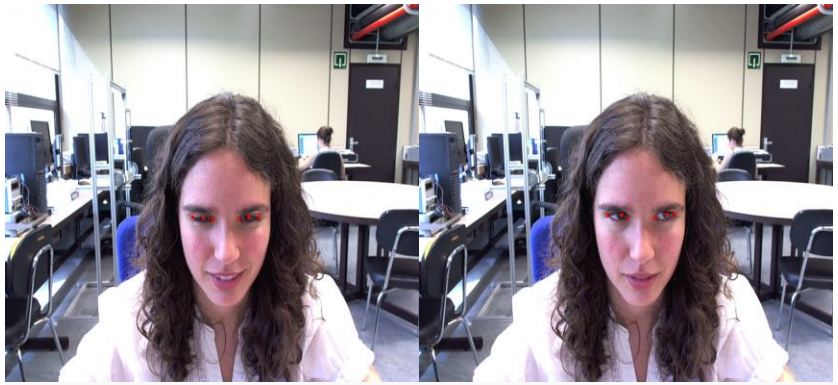
- 7. GI4E

Name	GI4E
Official URL	https://www.unavarra.es/gi4e/databases/gi4e/?languageId=1
IP / DIR Path	192.168.0.180(A6000) /home/disk2/gaze/GI4E
Volume	1,236 images
Type	RGB real images
Relavant URL	None
Annotation	Eye Landmark_3 points
Image format	PNG
Label format	TXT
Resolution	800 X 600

1) Gaze_Data EDA

- 7. GI4E

- 특이사항



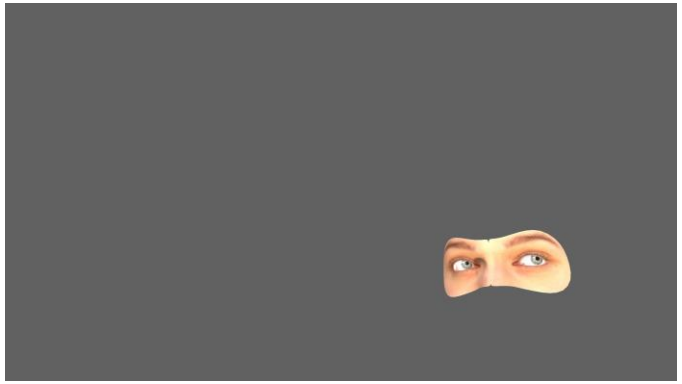
001_01.png	490.63	338.28	471.22	338.41	452.86	341.93	401.95	342.45	383.33	339.84	362.63	338.41
001_02.png	493.49	332.94	479.30	333.33	455.86	340.23	404.69	340.11	391.02	334.50	364.58	335.81
001_03.png	495.05	333.86	477.47	332.94	458.07	339.32	407.29	339.71	389.45	333.33	368.88	334.89
001_04.png	493.62	334.25	472.66	332.42	456.38	338.80	405.08	340.11	385.03	334.11	367.84	336.46
001_05.png	495.83	333.33	470.57	331.64	457.68	338.02	406.77	339.45	382.81	333.33	369.92	334.38
001_06.png	496.22	336.20	474.48	335.29	458.46	339.45	407.81	340.89	386.46	336.72	369.79	336.20
001_07.png	495.31	336.46	474.87	335.81	458.07	340.89	407.55	342.19	386.98	337.76	370.18	337.24
001_08.png	496.22	337.11	479.43	336.98	459.64	341.54	408.98	342.32	390.89	337.89	370.96	337.89
001_09.png	496.88	337.37	484.11	337.63	460.68	342.45	410.29	342.58	396.22	338.80	371.22	338.41
001_10.png	497.79	340.23	483.20	341.02	461.07	343.75	410.55	343.36	395.44	341.93	371.75	341.41
001_11.png	495.96	343.88	476.04	343.88	458.46	346.36	407.94	347.53	387.63	345.83	369.27	344.14
001_12.png	498.70	343.88	474.87	342.97	460.29	346.09	409.77	347.27	386.98	344.92	371.61	342.71

1. Gaze Angle 분석에 필요한 Annotation(*) 및 Information 부족으로 Gaze Angle 학습용 데이터로는 부적합(**)

(*) : head pose data or gaze angle data
(**) : Only 3 Landmarks for each eyes

1) Gaze_Data EDA

- 8. U2Eyes



Name	U2Eyes
Official URL	https://www.unavarra.es/gi4e/databases/u2eyes
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/U2Eyes
Volume	117,500 images
Type	RGB Synthetic images
Relavant URL	https://openaccess.thecvf.com/content_ICCVW_2019/papers/OpenEDS/Porta_U2Eyes_A_Binocular_Dataset_for_Eye_Tracking_and_Gaze_Estimation_ICCVW_2019_paper.pdf
Annotation	Head Pose • Rotation – x, y, z (roll, pitch, yaw) • Position – x, y, z (coordinate) • LookAtPoint – x, y, z (coordinate) POI (landmark) • 2D vector - Caruncle, InteriorMargin, Iris, Pupil, IrisCenter, PupilCenter, CorneaCenter, GlobeCenter • 3D vector - Caruncle, InteriorMargin, Iris, Pupil, IrisCenter, PupilCenter, CorneaCenter, GlobeCenter
Image format	PNG
Label format	XML
Resolution	3840 X 2160

1) Gaze_Data EDA

- 8. U2Eyes

- 특이사항

1) Gaze_Data EDA

- 9. TeyeD_Dikablis

Name	
Official URL	
IP / DIR Path	
Volume	
Type	
Relavant URL	
Annotation	
Image format	
Label format	
Resolution	

1) Gaze_Data EDA

- 9. TeyeD_Dikablis

- 특이사항

1. 데이터 확인 결과 mp4 포멧, 프레임별 라벨링이 되어 있어서 1 프레임 당 이미지를 저장하는 전처리 진행 예정

1) Gaze_Data EDA

- 10. TeyeD_GazeinTheWild

Name	TeyeD_GazeinTheWild
Official URL	https://www.v7labs.com/open-datasets/teyed
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase//TEyeD_GazeinTheWild
Volume	
Type	IR
Relavant URL	https://arxiv.org/pdf/2102.02115.pdf
Annotation	
Image format	mp4
Label format	txt
Resolution	

1) Gaze_Data EDA

- 10. TeyeD_GazeinTheWild

- 특이사항

1. 데이터 확인 결과 mp4 포멧, 프레임별 라벨링이 되어 있어서 1 프레임 당 이미지를 저장하는 전처리 진행 예정

1) Gaze_Data EDA

- 11. Eye_Gaze

Name	
Official URL	
IP / DIR Path	
Volume	
Type	
Relavant URL	
Annotation	
Image format	
Label format	
Resolution	

1) Gaze_Data EDA

- 11. Eye_Gaze

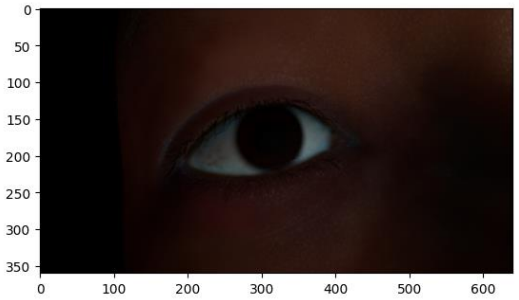
- 특이사항

1. 데이터 분석결과 MPIIGaze와 동일한 Dataset으로 확인 됨
   MPIIGaze

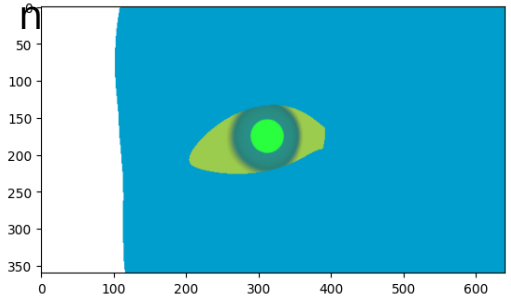
1) Gaze_Data EDA

- 12. Synthetic Human Eyes

Lit



segmentatio
n

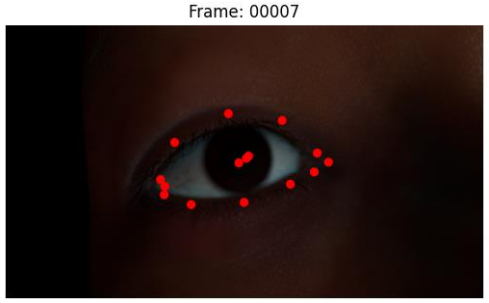


Name	Sysnthetic Human Eyes(Kaggle)
Official URL	https://www.kaggle.com/datasets/allexmendes/synthetic-human-eyes
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/Sysnthetic_Human_Eyes
Volume	Lit – 49999 Segmentation - 49999
Type	RGB
Relavant URL	https://arxiv.org/pdf/2102.02115.pdf https://www.kaggle.com/code/allexmendes/draw-projected-keypoints/notebook?scriptVersionId=59006081&cellId=3
Image format	png
Label format	json
Resolution	640X360

1) Gaze_Data EDA

- 12. Synthetic Human Eyes

Annotation - Landmark



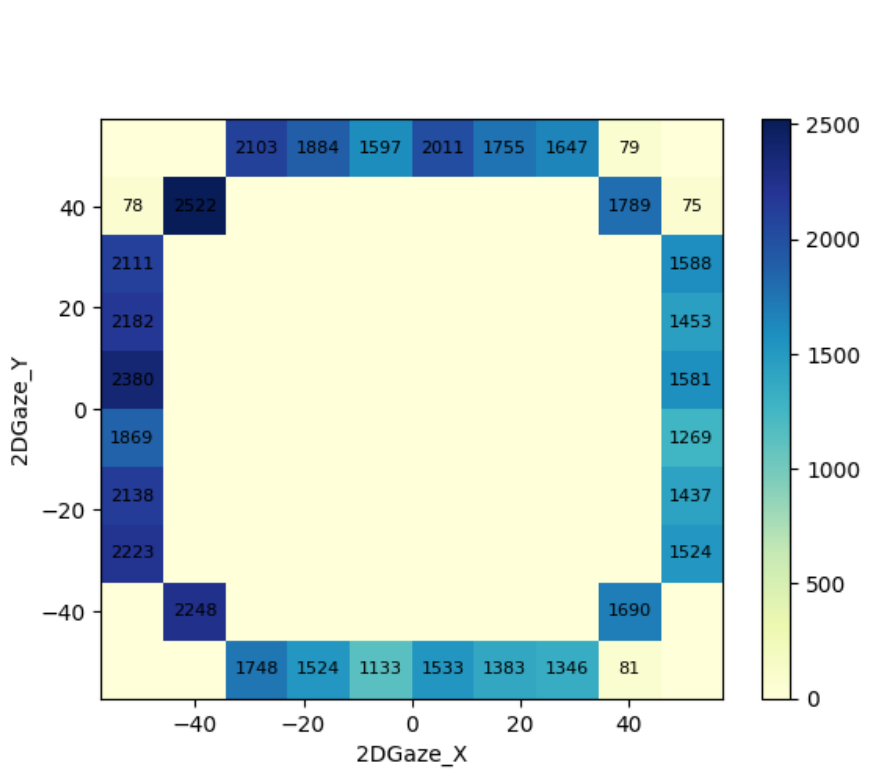
Annotation - Gaze

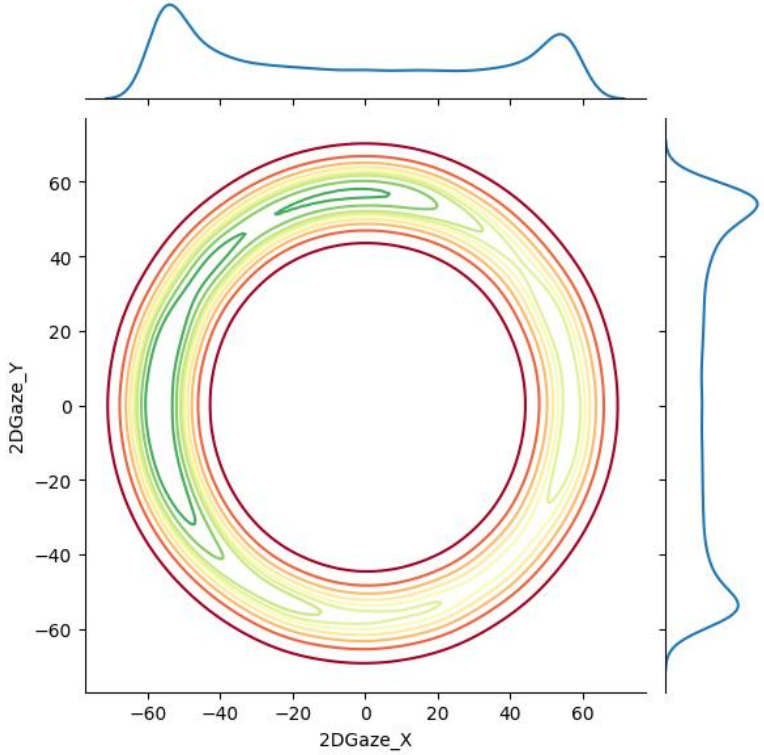
Annotation	Camera	ViewProjection - 4x4 matrix It's known as the ViewProjection matrix, often used in the transformation of 3D points into 2D space for rendering
	Overall	Side - indicates which eye is being shown in matching images ("Left" or "Right")
		GazeWorld - Ground truth of normalized 3D gaze direction vector
		GazeImage - Ground truth of normalized 2D gaze direction vector
	Parameters	EyeBlink - The amount of eye blinking.
		EyeLookDown - Eye rotation towards the downside of the face.
		EyeLookIn - Eye rotation towards the inside of the face.
		EyeLookOut - Eye rotation towards the outside of the face.
		EyeLookUp -Eye rotation towards the upside of the face.
		EyeSquint - A measure of how much you squint your eyes.
		EyeWide - A value equivalent to having your eyes wide open. Note: Cancels the effect of "EyeBlink" if both have similar values.
	Keypoints	PupilOffset - how much the pupils have moved or shifted from that reference
		EyelidLower1 - positions of the lower eyelid
		EyelidLower2 - positions of the lower eyelid
		EyelidLower3 - positions of the lower eyelid
		EyeCornerOuter - positions of the outer corner of the eye.
		EyeCornerOuter1 - positions of the outer corner of the eye.
		EyeCornerOuter2 - positions of the outer corner of the eye.
		EyeCornerInner - positions of the inner corner of the eye
		EyeCornerInner1 - positions of the inner corner of the eye
		EyeCornerInner2 - positions of the inner corner of the eye
		EyePupil - positions of the pupil
		EyelidUpper1 - positions of the upper eyelid
		EyelidUpper2 - positions of the upper eyelid
		EyelidUpper3 - positions of the upper eyelid

1) Gaze_Data EDA

- 12. Synthetic Human Eyes

- 분석





- 2D_vector = degree

1) Gaze_Data EDA

- 12. Synthetic Human Eyes

- 특이사항

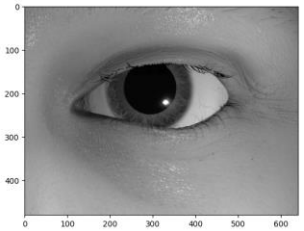
```
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/01662.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/06092.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/11106.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/11920.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/17640.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/21852.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/21930.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/22185.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/23277.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/25141.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/25550.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/26888.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/28074.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/33963.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/42486.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/42955.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/46999.json
Key 'Overall' not found in nsmount/Sysnthetic Human Eyes/data/RGB/labeldata/47022.json
```

다음 해당하는 18개의 데이터 라벨이 존재하지 않았다.

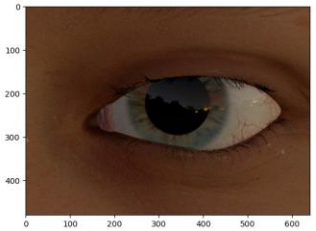
1) Gaze_Data EDA

- 13. RIT-Eyes

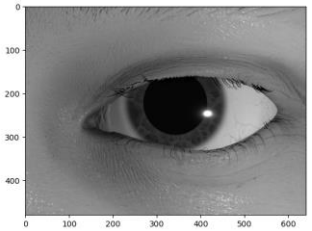
S-general



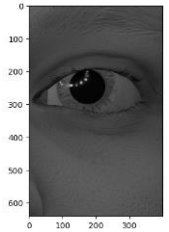
S-natural



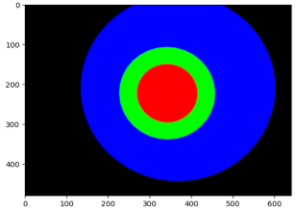
S-nvgaze



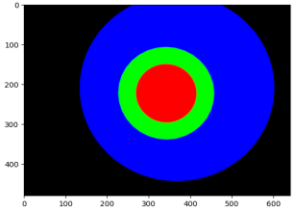
S-openeds



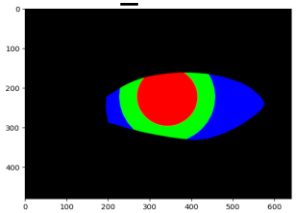
Without_skin



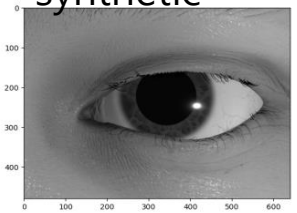
No glasses



With_skin



synthetic

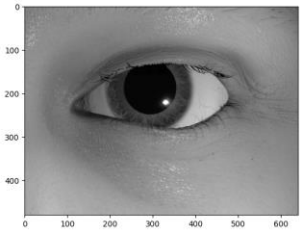


Name	RIT-Eyes
Official URL	https://cs.rit.edu/~cgaplab/RIT-Eyes/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/RIT_Eyes
Volume	S_general(synthetic) - 48000 (id-24) S_natural(synthetic) - 48000 (id-24) S_nvgaze(synthetic) - 51600 (id-24) S_openeds(synthetic) - 51600 (id-24))
Type	IR (S_general,S _nvgaze,S_openeds) RGB (S_natural)
Relavant URL	https://arxiv.org/pdf/2006.03642v1.pdf
Image format	tif
Label format	p
Resolution	S_general 640X480 S_natural 640X480 S_nvgaze 640X480 S_openeds 400X640

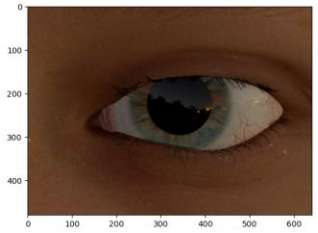
1) Gaze_Data EDA

- 13. RIT-Eyes

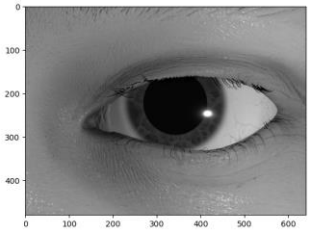
S-general



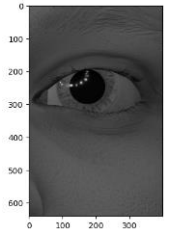
S-natural



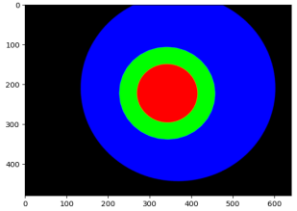
S-nvgaze



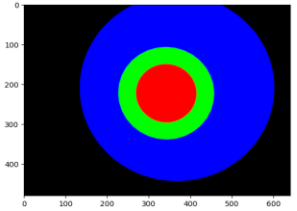
S-openeds



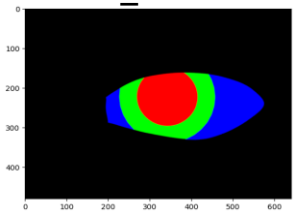
Without_skin



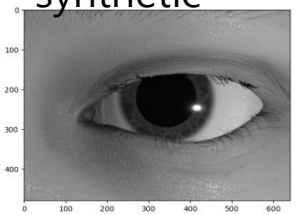
No glasses



With_skin



synthetic

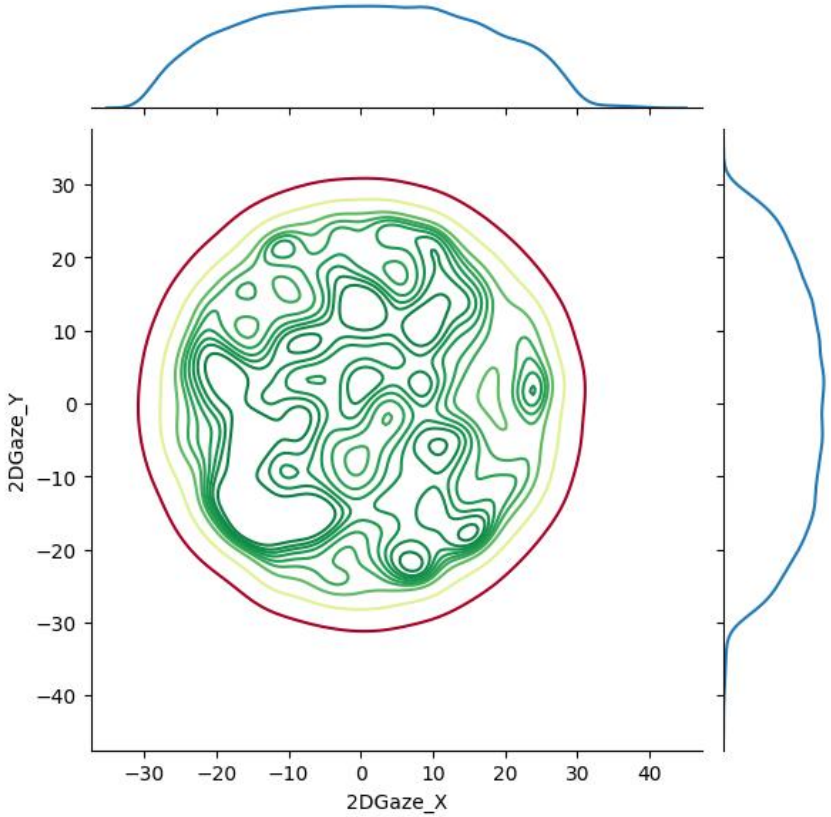


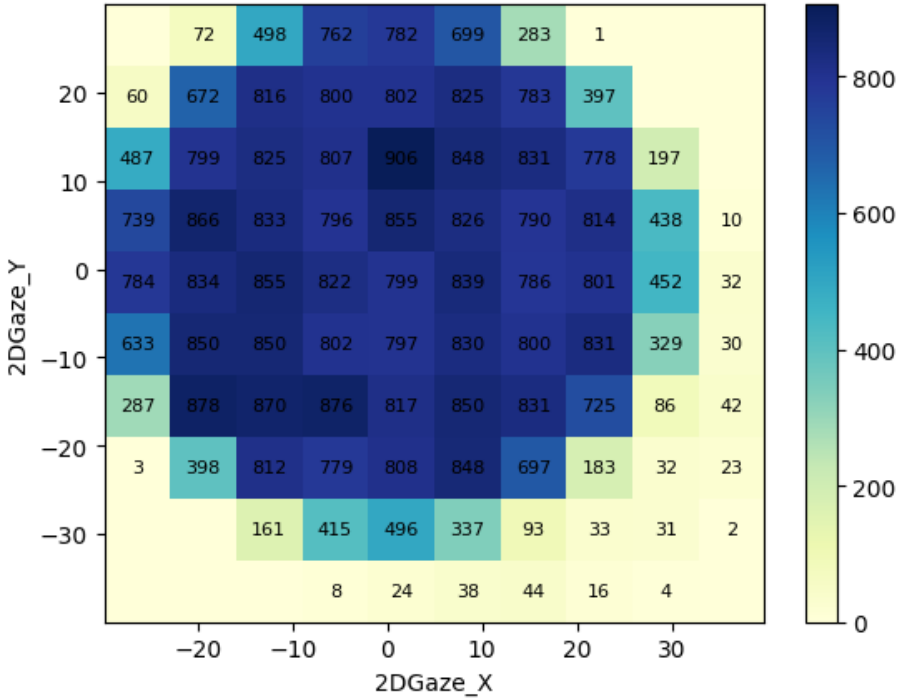
Annotation		
Camera_info	camera_3d_center	3D coordinates of the camera center.
	camera_distance	Distance from the camera to the eye.
	cam_az	Camera azimuth (horizontal angle of the camera).
	cam_el	Camera elevation angle (vertical angle of the camera).
	ortho_scale	The relevant orthoscale if it is an orthogonal projecti on.
	ortho_scale	The relevant orthoscale if it is an orthogonal projecti on.
Gaze	gaze_angle_az	Gaze angle in azimuth (horizontal direction).
	gaze_angle_el	Gaze angle (vertical) in elevation.
Eye_info	glasses	Information related to glasses, their possible presenc e, or characteristics.
	sclera	Information, possible characteristics, related to cells i n the white part of the eye.
Landmark	iris_loc	3D coordinates of the iris center.
	eye_loc	3D coordinates of the eye center.
	pupil	Information related to the pupil, its possible size, or shape.
	eye_lid	Information related to the eyelid, possible location, o r condition.
	iris_rot	Iris rotation information, possible directions.
	left_corner	3D coordinates of the left corner of the eye.
	right_corner	3D coordinates of the right corner of the eye.

1) Gaze_Data EDA

- 13. RIT-Eyes

- 분석 s - natural



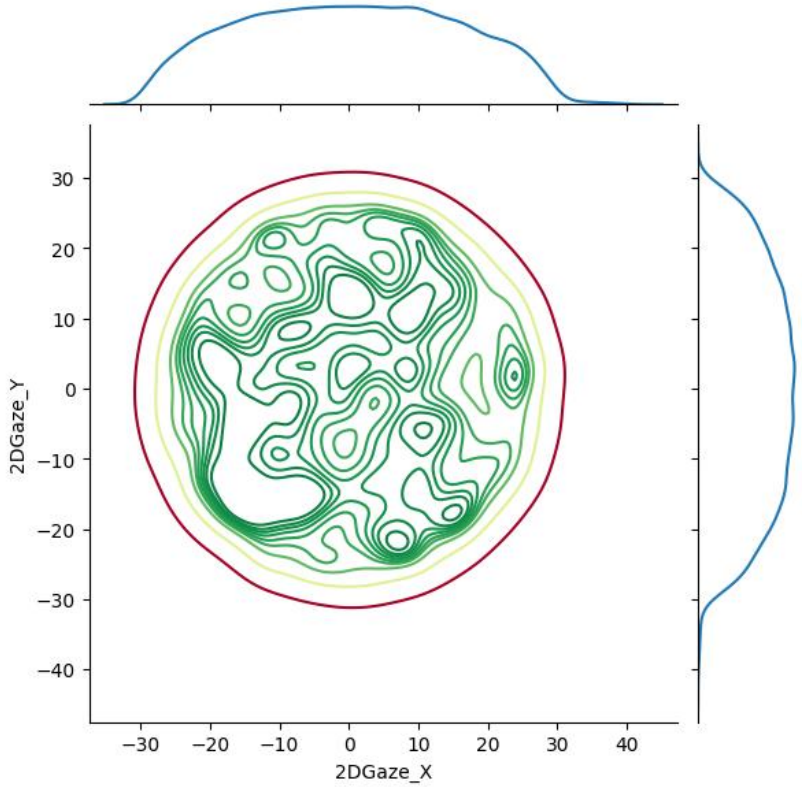


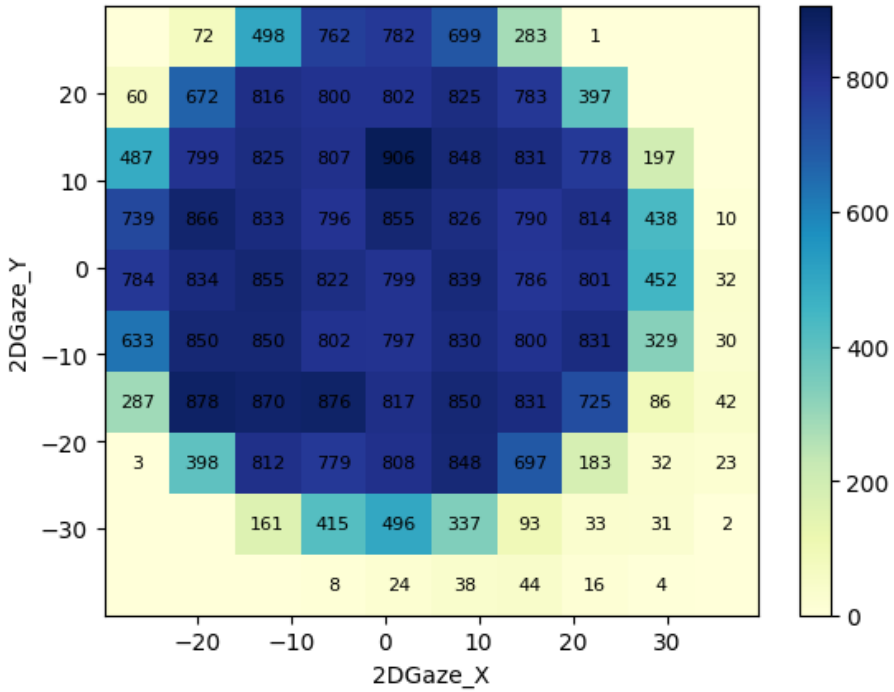
- degree

1) Gaze_Data EDA

- 13. RIT-Eyes

- 분석 s - general



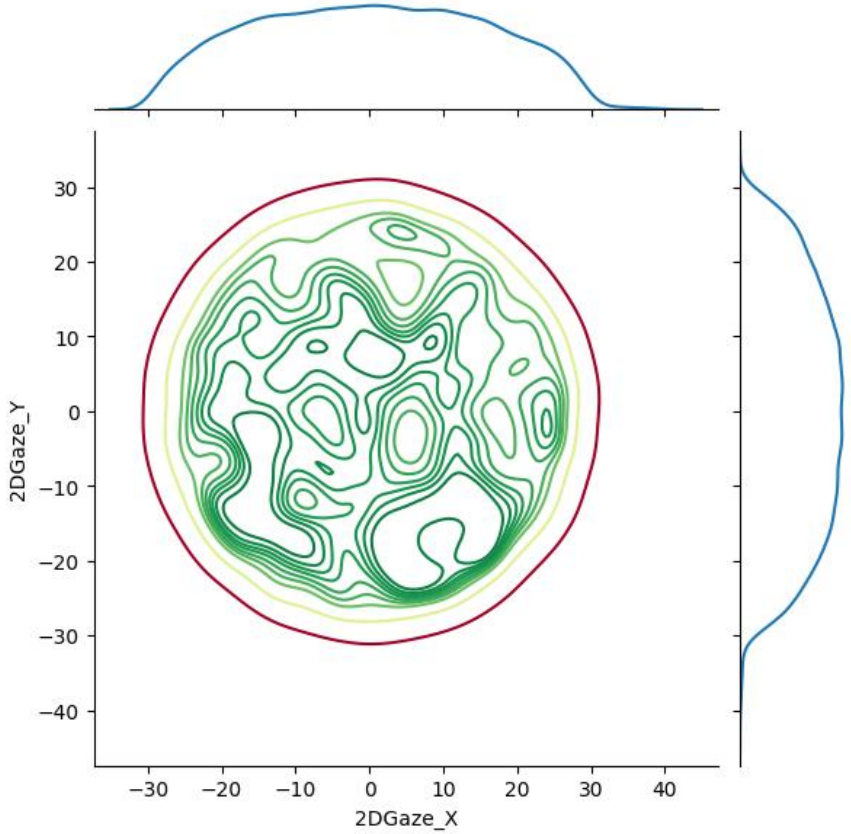


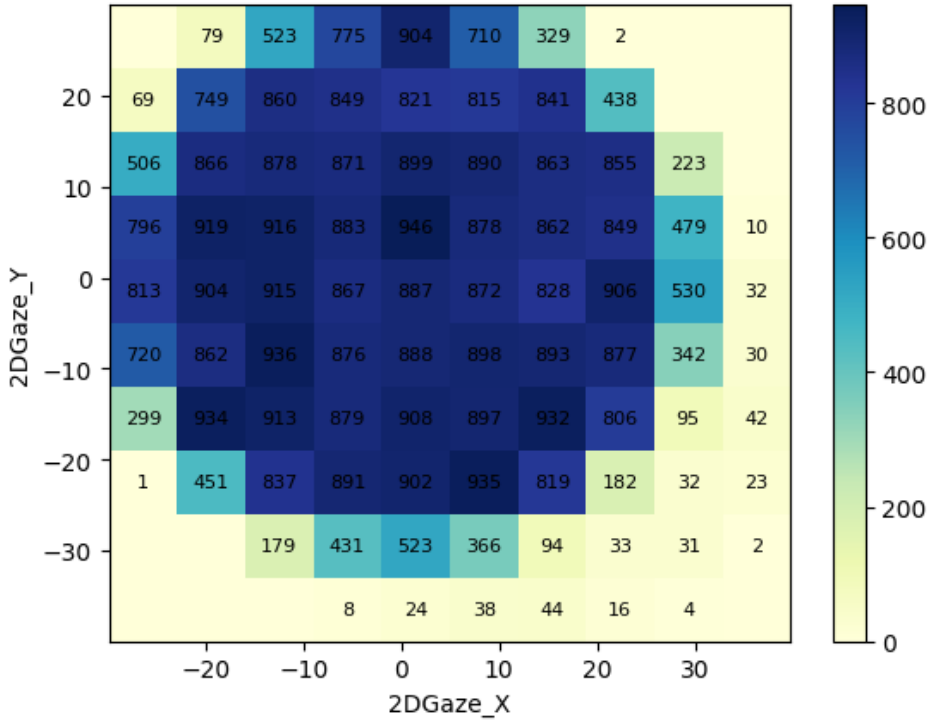
- degree

1) Gaze_Data EDA

- 13. RIT-Eyes

- 분석 s - openeds





- degree

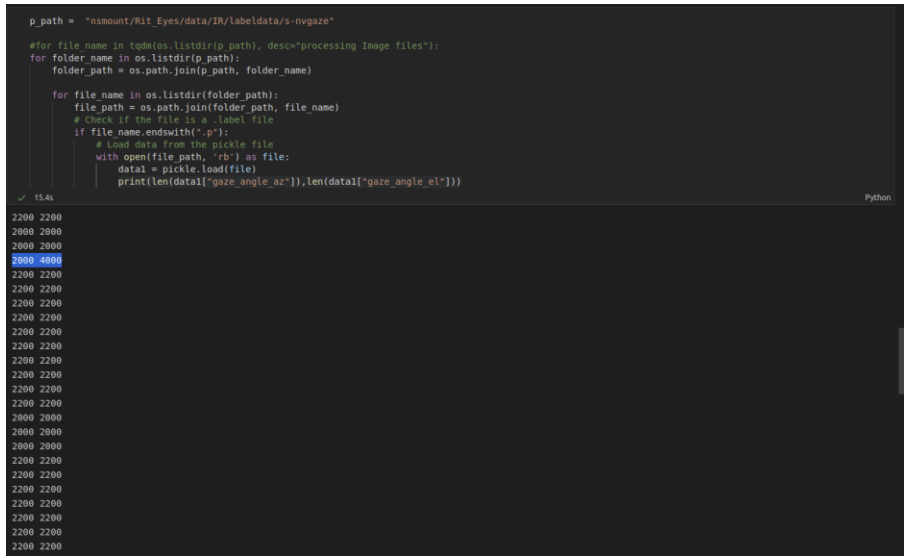
1) Gaze_Data EDA

- 13. RIT-Eyes

- 특이사항

ORIGINAL DATA는 존재하지않고 추출된 정보로 합성된 데이터만 존재

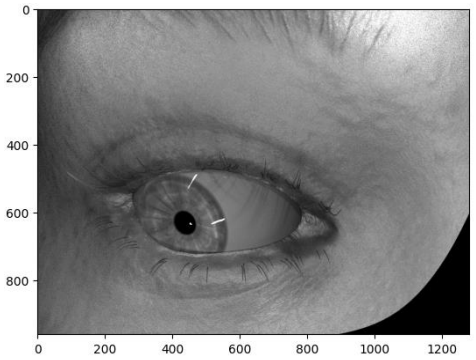
정규화된 좌표값들만 존재

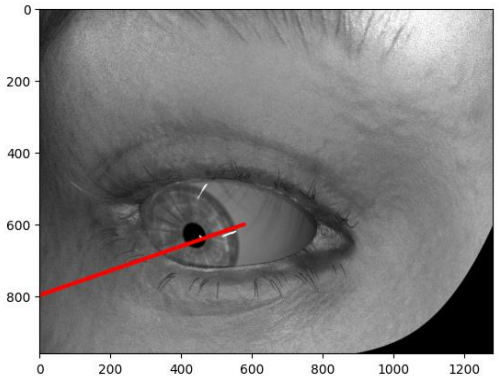


S- nvgaze dataset에서 gaze_x 와 gaze_y값의 수가 맞지 않음

1) Gaze_Data EDA

- 14. NVGaze



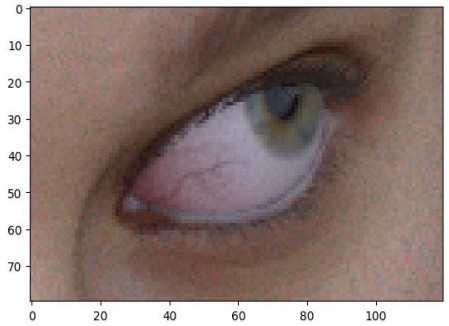


Name	NVGaze
Official URL	https://www.cl.cam.ac.uk/research/rainbow/projects/syntheseyes/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/SynthesEyes
Volume	Real Id - 42 2264127(crop) synthe Id – 10 (male – 5, female – 5)
Type	IR
Relavant URL	https://drive.google.com/file/d/10_qiwrlAM3Kk7eXW4moGE8ib4Ut3q050/view https://drive.google.com/file/d/1aGg2_Lm6KG4q5WztHWc6MkTtO4OXjtoo/view
Annotation	
Image format	png
Label format	csv
Resolution	1280X960

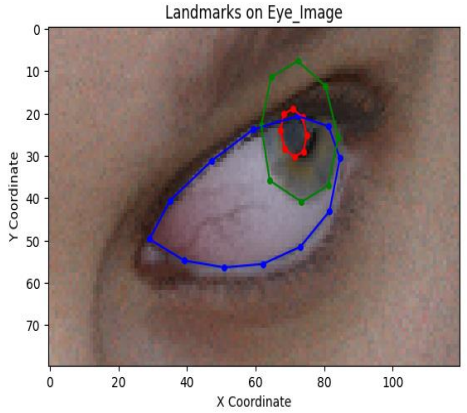
1) Gaze_Data EDA

- 15. SYNTHESEYES

Crop



Annotation(Gaze, Landmark)

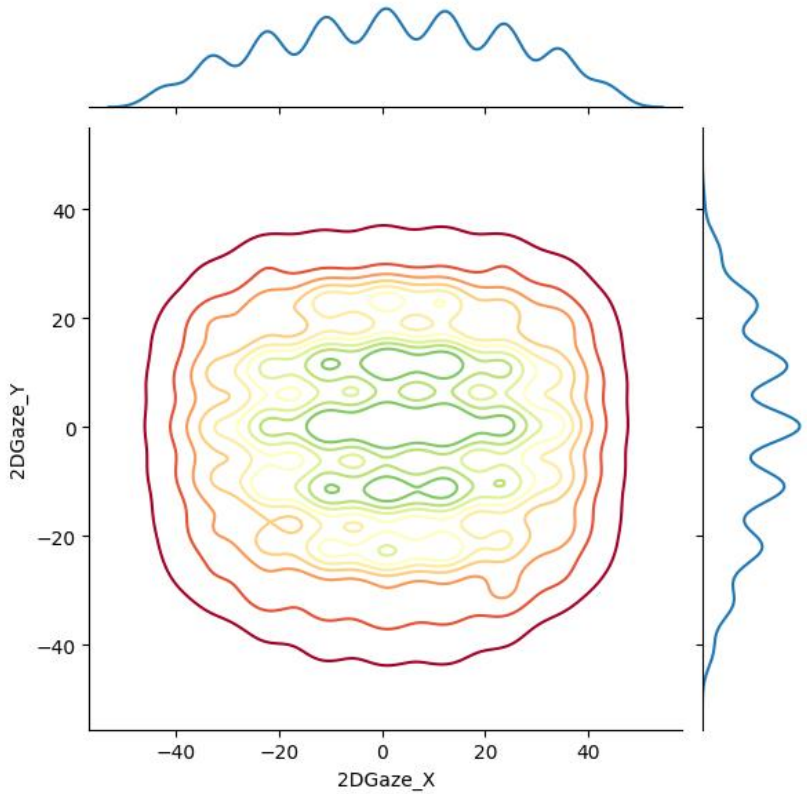


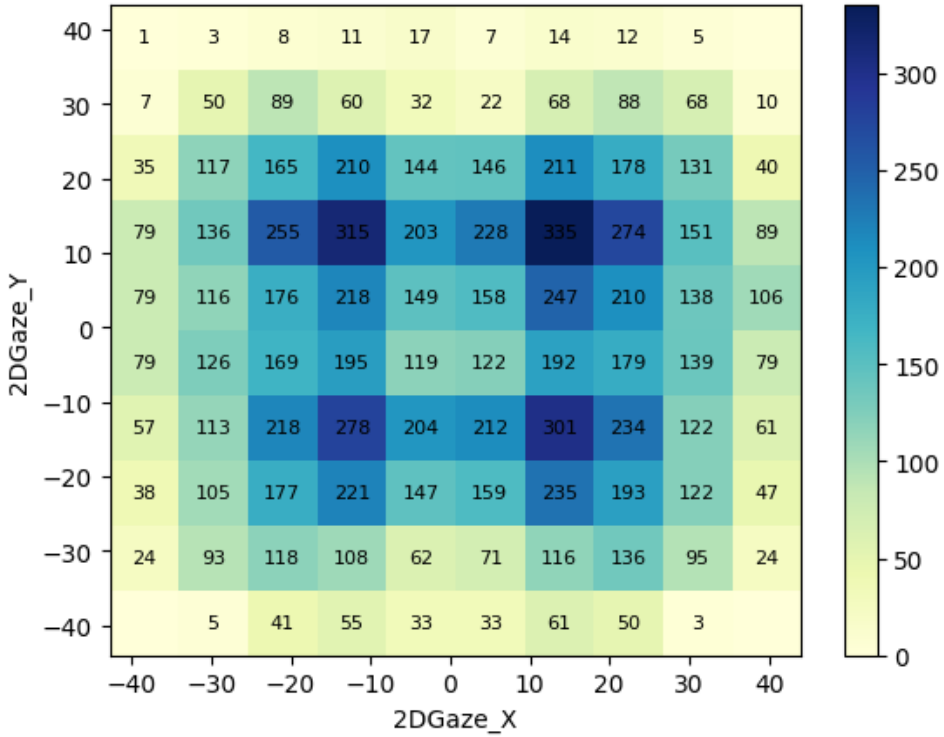
Name	SYNTHESEYES
Official URL	https://www.cl.cam.ac.uk/research/rainbow/projects/syntheseyes/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/SynthesEyes
Volume	11382 (Crop) Id – 10 (male – 5, female – 5)
Type	RGB real images (Crop)
Relavant URL	None
Annotation	look_vec – the 3D gaze direction in camera space. head_pose – a 3x3 matrix rotation from world space to camera space. ldmks – a dict containing the following 2D and 3D landmarks: 1. ldmks_lids_2d, ldmks_iris_2d, ldmks_pupil_2d in screen space. 2. dmks_lids_3d, ldmks_iris_3d, ldmks_pupil_3d in camera space
Image format	png
Label format	pkl
Resolution	120X80(Crop)

1) Gaze_Data EDA

- 15. SYNTHESEYES

- 분석 - Total
  (Eye_gaze)



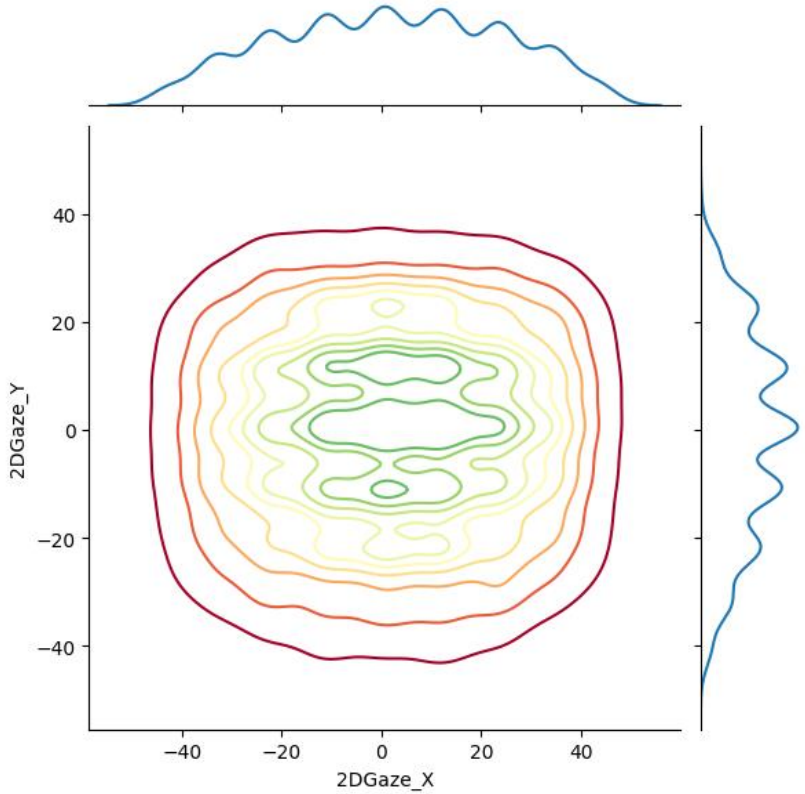


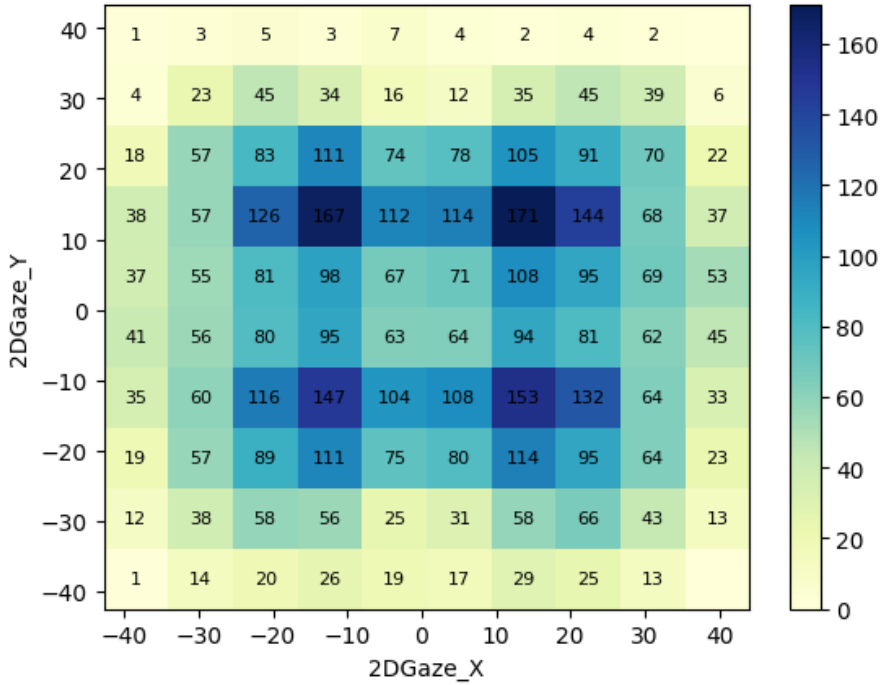
- 2D_vector = degree

1) Gaze_Data EDA

- 15. SYNTHESEYES

- 분석 - Male
  (Eye_gaze)



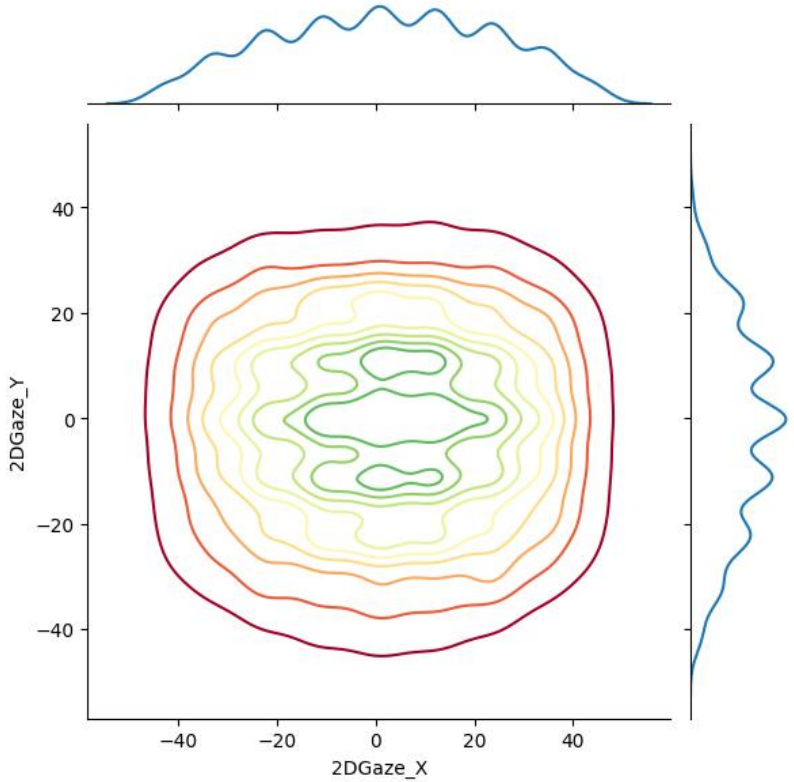


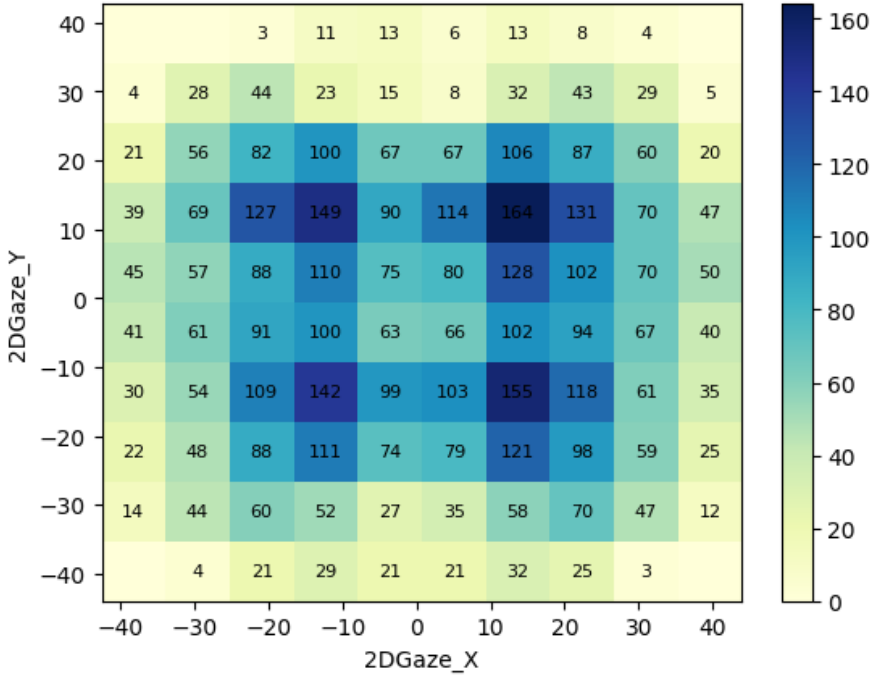
- 2D_vector = degree

1) Gaze_Data EDA

- 15. SYNTHESEYES

- 분석 - Female
  (Eye_gaze)





- 2D_vector = degree

1) Gaze_Data EDA

- 15. SYNTHESEYES

- 특이사항

1. 3D_GAZE 데이터만 존재하여 2D_GAZE 데이터를 추출(X,Y값) 하여 분석을 진행

look_vec – the 3D gaze direction in camera space.

2. Left_Eye 정보만 훈련데이터로 사용

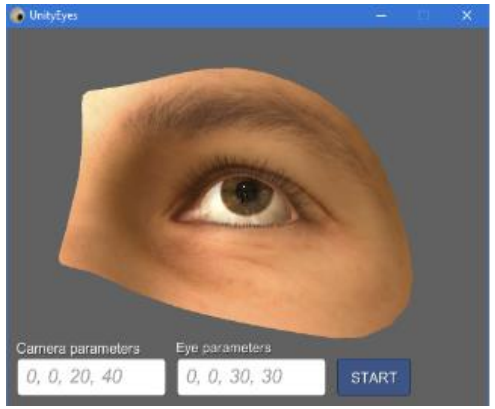
Official URL	https://www.cl.cam.ac.uk/research/rainbow/projects/syntheseyes/

We render photorealistic images of eyes for use as training data. We prepare our dynamic eye region models by retopologizing high-quality 3D head scans (left) and annotating them with landmark and gaze information (green).

1) Gaze_Data EDA

- 16. UNITYEYES

Sample Image



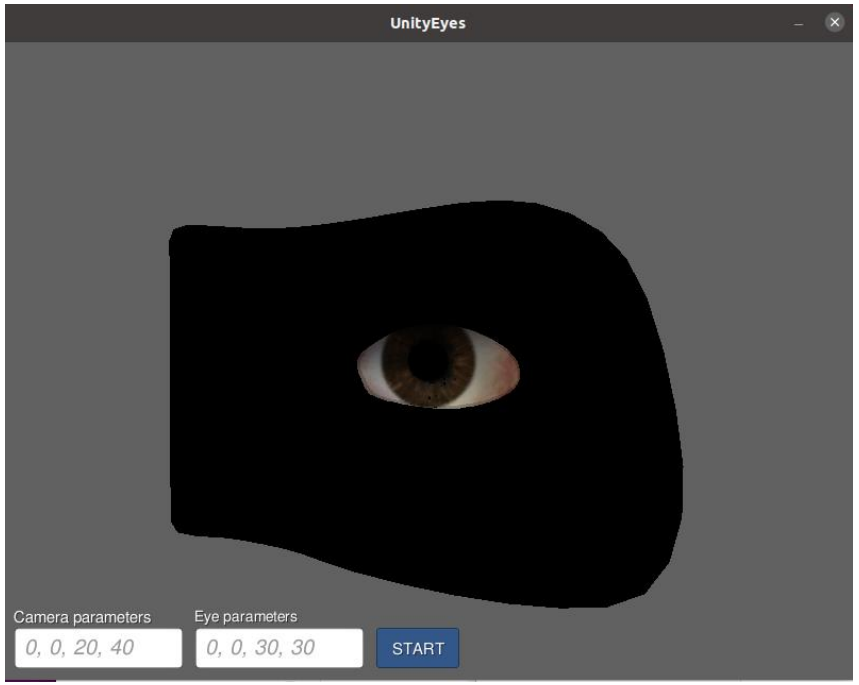
Name	UNITYEYES
Official URL	https://www.cl.cam.ac.uk/research/rainbow/projects/unityeyes/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/UnityEyes
Volume	None
Type	None
Relavant URL	https://www.cl.cam.ac.uk/research/rainbow/projects/unityeyes/tutorial.html
Annotation	None
Image format	None
Label format	None
Resolution	None

1) Gaze_Data EDA

- 16. UNITYEYES

- 특이사항

unityeyes.x86



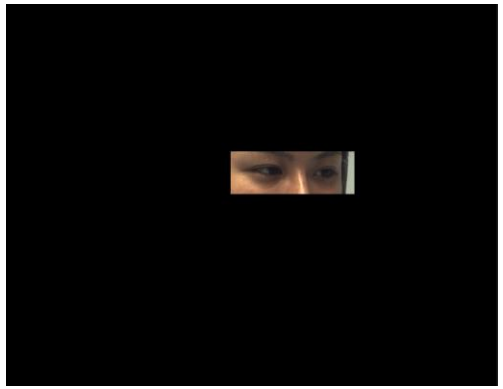
- 이미지 데이터와 라벨 데이터는 존재하지 않음

- 실행 파일을 실행시키면 아래와 같은 창이 나오며
  Camera params, Eye params를 조절하여
  데이터 생성 프로그램이 나오게 된다

1) Gaze_Data EDA

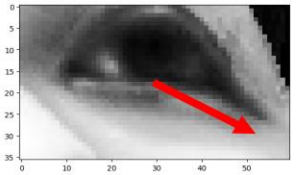
- 17. UTMULTIVIEW

Original



Crop

Annotation

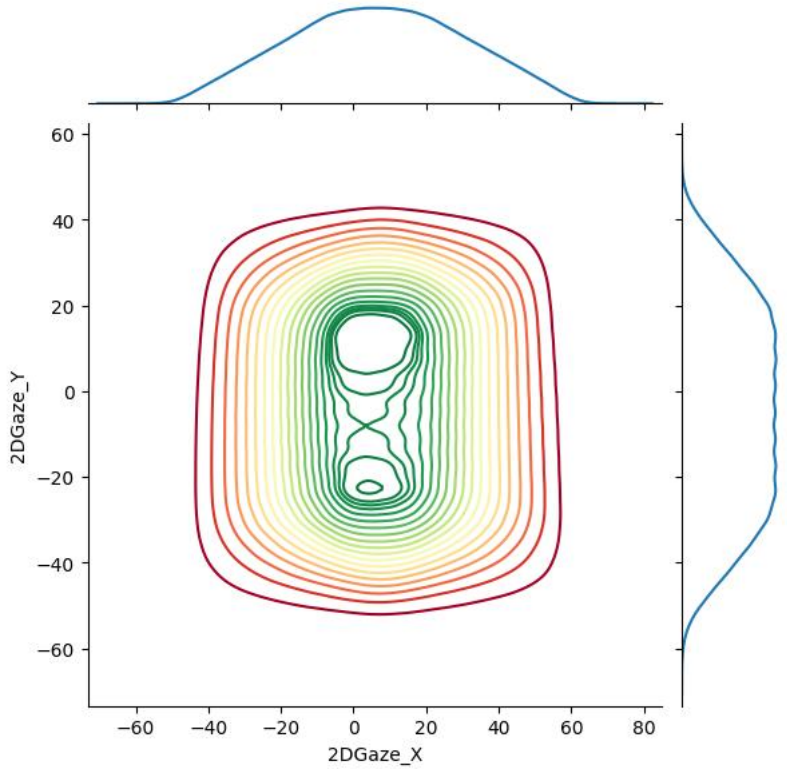


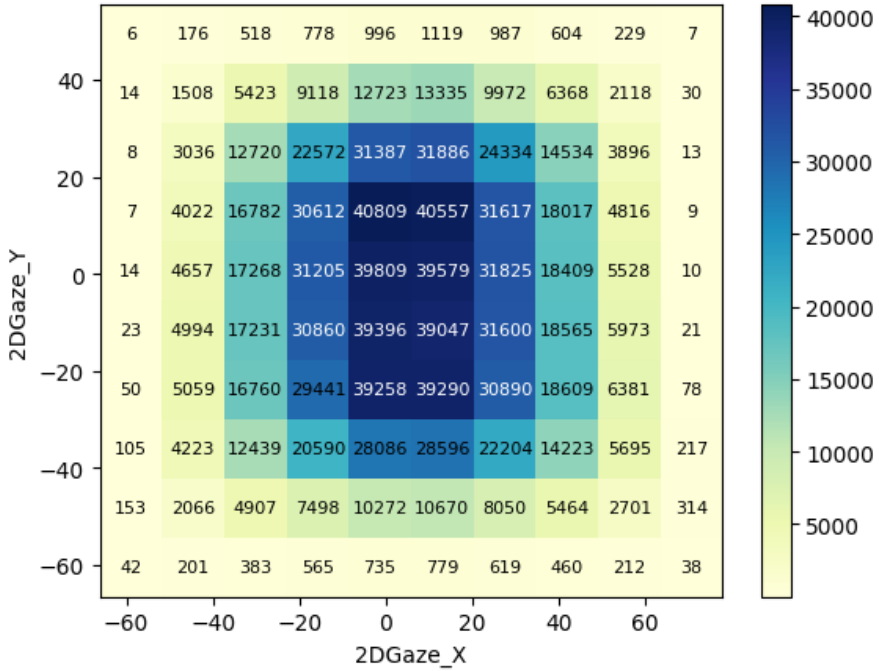
Name	UTMULTIVIEW
Official URL	https://www.ut-vision.org/datasets/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/UTMULTIVIEW
Volume	Synth – 1,152,000(Crop) Test – 64,000(Crop) Original – 1,280 Id - 50
Type	RGB real images (Original) Gray Scale images (Crop)
Relavant URL	https://www.cv-foundation.org/openaccess/content_cvpr_2014/html/Sugano_Learning-by-Synthesis_for_Appearance-based_2014_CVPR_paper.html
Annotation	**3D_Gaze(rad)** - Ground truth of normalized 3D gaze direction vector **3D_Head** - Ground truth of normalized 3D head orientation vector. **2D_Gaze(rad)** - Ground truth of normalized 2D gaze direction vector **2D_Head** - Ground truth of normalized 2D head orientation vector
Image format	jpg
Label format	csv (Original) label (Crop)
Resolution	1280 X 1024 (Original) 60 X 36 (Crop)

1) Gaze_Data EDA

- 17. UTMULTIVIEW

- 분석 우안
  (Eye_gaze)





- 2D_vector = degree
- 정면을 기준으로 시선이 중심부분에 분포 되어 있는 데이터 위주로 구성됨

1) Gaze_Data EDA

- 17. UTMULTIVIEW

- 특이사항

```
if which_eye == "right":
    img = cv2.flip(img, 1)
    gaze = dpc.GazeFlip(gaze)
    head = dpc.HeadFlip(head)
```

Original 이미지에서 오른쪽눈 정보만 사용후
Flip하여 왼쪽 눈 정보로 사용하여 훈련 진행
Crop된 데이터와 라벨도 오른쪽 눈에 대해서만 존재

1) Gaze_Data EDA

- 18. EYEDIAP

Name	
Official URL	
IP / DIR Path	
Volume	
Type	
Relavant URL	
Annotation	
Image format	
Label format	
Resolution	

1) Gaze_Data EDA

- 19. OpenEDS : Open Eye Dataset

Name	
Official URL	
IP / DIR Path	
Volume	
Type	
Relavant URL	
Annotation	
Image format	
Label format	
Resolution	

1) Gaze_Data EDA

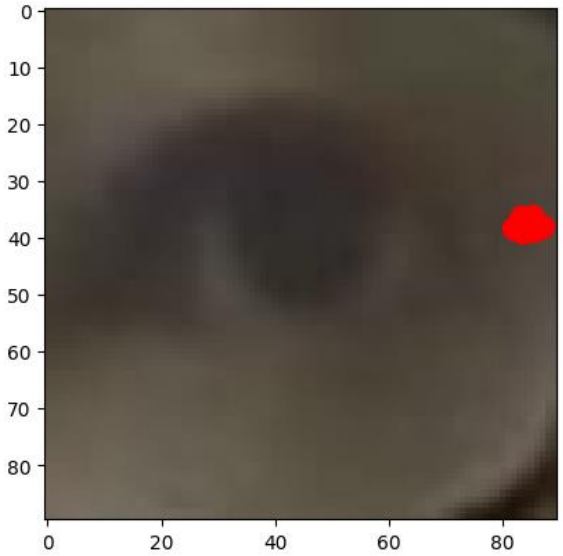
- 20. ShanghaiTechGaze

Name	ShanghaiTechGaze
Official URL	https://github.com/dongzelian/multi-view-gaze
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/ShanghaiTechGaze
Volume	155,864(leftcamera,crop) 155,864(middlecamera,crop) 155,864(rightcamera,crop) 467,592(total) 137 ids
Type	RGB real image (eye cropped)
Relavant URL	https://sci-hub.se/10.1109/TNNLS.2018.2865525
Annotation	**2D_Gaze** - Ground truth of normalized 2D gaze direction vector **Eye Landmark_6 points -** normalized value
Image format	jpg
Label format	mat
Resolution	90 X 90

1) Gaze_Data EDA

- 20. ShanghaiTechGaze

- 특이사항



- 모델 학습에 랜드마크를 사용하지 않음
- 정규화된 랜드마크값에 대한 정보가 부족(*)
- 랜드마크 정보는 사용 불가
- 크롭된 눈 이미지 자체 학습용으로는 활용 가능
- 이미지와 GT값만 정리
- GT = 위치정보

(*)only 6 landmarks of each eyes

1) FaceLandmark_Data EDA

- 1. DIS_300VW

Original

Landmark

Name	DIS_300VW
Official URL	https://ibug.doc.ic.ac.uk/resources/300-VW/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/DIS_300VW
Volume	218,597 images 114 ids
Type	RGB real images
Relavant URL	
Annotation	FaceLandmark – 68points
Image format	Png
Label format	Pts
Resolution	Various Standards

1) FaceLandmark_Data EDA

- 1. DIS_300W

Original

Landmark

Name	DIS_300W
Official URL	https://ibug.doc.ic.ac.uk/resources/300-W/
IP / DIR Path	192.168.0.128:5002(Synology) /DataBase/DIS_300W
Volume	300 (Indoor) 300 (outdoor)
Type	RGB real images
Relavant URL	
Annotation	Face Landmark – 68 points
Image format	png
Label format	Pts
Resolution	Various Standards

1. FaceLandmark_Dataset 개요

No.	Dataset Name	Official URL	IP / DIR Path
1	DIS_300W	https://ibug.doc.ic.ac.uk/resources/300-W/	192.168.0.128(Synology) /DataBase/DIS_300W
2	DIS_300VW		
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

1. BoundingBox_Dataset 개요

No.	Dataset Name	Official URL	IP / DIR Path
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			