```
D:\anaconda3\envs\pytorch2.0\pythonw.exe "D:\Toolbox App\PyCharm Professional\jbr\bin\D\□□□□□□□\PycharmProjects\eye_image_processing\training\train-1.py"
□□□□□□: 2308, □□□□□□: 577

□□□□□□□:
N    0.393847
D    0.181976
G    0.075390
C    0.073657
A    0.055459
H    0.026430
M    0.061092
O    0.332756
dtype: float64

□□□□□□□:
N    0.393414
D    0.181976
G    0.071057
C    0.071057
A    0.057192
H    0.027730
M    0.057192
O    0.339688
dtype: float64
2025-03-15 01:13:40,504 - WARNING - □□ D:\Toolbox App\PyCharm Professional\jbr\bin\D\□□□□□□□\PycharmProjects\eye_image_processing\data\Training_Dataset\paired_dir\3240.png □□: broken PNG file (bad header checksum in b'IDAT')
2025-03-15 01:13:42,372 - WARNING - □□ D:\Toolbox App\PyCharm Professional\jbr\bin\D\□□□□□□□\PycharmProjects\eye_image_processing\data\Training_Dataset\paired_dir\3977.png □□: broken PNG file (bad header checksum in b'IDAT')
2025-03-15 01:13:42,555 - WARNING - □□□□□□□□□□□□□□□: [2090, 2289]
2025-03-15 01:13:44,933 - WARNING - □□ D:\Toolbox App\PyCharm Professional\jbr\bin\D\□□□□□□□\
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28 PycharmProjects\eye_image_processing\data\
   Training_Dataset\paired_dir\31.png □□: broken PNG
   file (bad header checksum in b'IDAT')
29 2025-03-15 01:13:50,621 - WARNING - □□□□□□□□□□□□□□□: [
   7]
30 □□□□□□□□: 2306
31 □□□□□□□□: 576
32 □□□□□□□□□ 'N' □□□...
33 □□□□
34 build_kg: □□ disease_cols □ ['N', 'D', 'G', 'C', 'A
   ', 'H', 'M', 'O']
35 num_diseases: 8, num_symptoms: 91, num_nodes: 99
36 edge_index shape: torch.Size([2, 250])
37 embeddings shape: torch.Size([99, 128])
38 disease_embeddings shape: torch.Size([8, 128])
39 adjacency matrix shape: torch.Size([8, 8])
40 Loaded pretrained weights for efficientnet-b3
41 Running sample-level generate_pseudo_labels - Version
    2025-03-14
42 num_diseases: 8, num_samples: 2308
43 Step 0, loss: 0.6957213878631592
44 Step 20, loss: 0.6693952679634094
45 Step 40, loss: 0.6442692875862122
46 Step 60, loss: 0.6204255819320679
47 Step 80, loss: 0.5978384017944336
48 □□□□□□□□: 0 / 2308
49 Pseudo labels shape: torch.Size([2308, 8])
50 Sample pseudo labels (first 5): [[1.0, 0.0, 0.0, 0.0
   , 0.0, 0.0, 0.0, 0.0], [0.0, 1.0, 0.0, 0.0, 0.0, 0.0
   , 0.0, 1.0], [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1.0
   ], [0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1.0], [0.0, 1.
   0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]]
51 2025-03-15 01:17:54,036 - WARNING - □□ D:\Toolbox App
   \PyCharm Professional\jbr\bin\D\□□□□□□□\
   PycharmProjects\eye_image_processing\data\
   Training_Dataset\paired_dir\3240.png □□: broken PNG
   file (bad header checksum in b'IDAT')
52 2025-03-15 01:17:55,943 - WARNING - □□ D:\Toolbox App
   \PyCharm Professional\jbr\bin\D\□□□□□□□\
   PycharmProjects\eye_image_processing\data\
   Training_Dataset\paired_dir\3977.png □□: broken PNG
```

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52 file (bad header checksum in b'IDAT')
53 2025-03-15 01:17:56,122 - WARNING - □□□□□□□□□□□□□□□: [
   2090, 2289]
54 Loaded pretrained weights for efficientnet-b3
55 Epoch 1/30: 100%|██████████| 2306/2306 [06:58<00:00
   ,  5.51it/s, Batch Loss=0.2290, Cls Loss=0.2130,
   Graph Loss=0.0159, Penalty=0.0094, LR=0.000020]
56 Epoch 2/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [1/30] □□, Average Loss: 0.2877, Classification
    Loss: 0.2823, Graph Loss: 0.0107, Penalty: 0.0158
57 Epoch 2/30: 100%|██████████| 2306/2306 [06:58<00:00
   ,  5.50it/s, Batch Loss=0.0807, Cls Loss=0.0612,
   Graph Loss=0.0195, Penalty=0.0022, LR=0.000040]
58 Epoch 3/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [2/30] □□, Average Loss: 0.2128, Classification
    Loss: 0.2042, Graph Loss: 0.0174, Penalty: 0.0050
59 Epoch 3/30: 100%|██████████| 2306/2306 [06:57<00:00
   ,  5.52it/s, Batch Loss=0.1669, Cls Loss=0.1343,
   Graph Loss=0.0326, Penalty=0.0000, LR=0.000060]
60 Epoch 4/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [3/30] □□, Average Loss: 0.1821, Classification
    Loss: 0.1686, Graph Loss: 0.0271, Penalty: 0.0039
61 Epoch 4/30: 100%|██████████| 2306/2306 [06:54<00:00
   ,  5.56it/s, Batch Loss=0.1529, Cls Loss=0.0988,
   Graph Loss=0.0541, Penalty=0.0000, LR=0.000080]
62 Epoch 5/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [4/30] □□, Average Loss: 0.1637, Classification
    Loss: 0.1451, Graph Loss: 0.0372, Penalty: 0.0024
63 Epoch 5/30: 100%|██████████| 2306/2306 [07:00<00:00
   ,  5.48it/s, Batch Loss=0.2624, Cls Loss=0.2275,
   Graph Loss=0.0350, Penalty=0.0000, LR=0.000100]
64 Epoch [5/30] □□, Average Loss: 0.1634, Classification
    Loss: 0.1408, Graph Loss: 0.0453, Penalty: 0.0023
65 Epoch 6/30: 100%|██████████| 2306/2306 [06:59<00:00
   ,  5.50it/s, Batch Loss=0.0584, Cls Loss=0.0196,
   Graph Loss=0.0388, Penalty=0.0002, LR=0.000100]
66 Epoch 7/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [6/30] □□, Average Loss: 0.1489, Classification
    Loss: 0.1238, Graph Loss: 0.0501, Penalty: 0.0021
67 Epoch 7/30: 100%|██████████| 2306/2306 [06:55<00:00
   ,  5.55it/s, Batch Loss=0.1467, Cls Loss=0.1033,
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67 Graph Loss=0.0434, Penalty=0.0032, LR=0.000100]
68 Epoch 8/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [7/30] □□, Average Loss: 0.1462,
   Classification Loss: 0.1196, Graph Loss: 0.0532,
   Penalty: 0.0019
69 Epoch 8/30: 100%|          | 2306/2306 [06:53<00:00
   ,  5.57it/s, Batch Loss=0.2244, Cls Loss=0.1394,
   Graph Loss=0.0850, Penalty=0.0000, LR=0.000098]
70 Epoch 9/30:   0%|          | 0/2306 [00:00<?, ?it/s]
   Epoch [8/30] □□, Average Loss: 0.1423,
   Classification Loss: 0.1149, Graph Loss: 0.0548,
   Penalty: 0.0023
71 Epoch 9/30: 100%|          | 2306/2306 [06:54<00:00
   ,  5.57it/s, Batch Loss=0.1290, Cls Loss=0.0803,
   Graph Loss=0.0487, Penalty=0.0000, LR=0.000096]
72 Epoch 10/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [9/30] □□, Average Loss: 0.1481,
   Classification Loss: 0.1201, Graph Loss: 0.0560,
   Penalty: 0.0025
73 Epoch 10/30: 100%|          | 2306/2306 [06:54<00:00
   ,  5.57it/s, Batch Loss=0.1732, Cls Loss=0.1108,
   Graph Loss=0.0624, Penalty=0.0000, LR=0.000094]
74 Epoch 11/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [10/30] □□, Average Loss: 0.1416,
   Classification Loss: 0.1132, Graph Loss: 0.0566,
   Penalty: 0.0020
75 Epoch 11/30: 100%|          | 2306/2306 [06:50<00:00
   ,  5.61it/s, Batch Loss=0.0580, Cls Loss=0.0193,
   Graph Loss=0.0387, Penalty=0.0001, LR=0.000090]
76 Epoch 12/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [11/30] □□, Average Loss: 0.1496,
   Classification Loss: 0.1210, Graph Loss: 0.0572,
   Penalty: 0.0025
77 Epoch 12/30: 100%|          | 2306/2306 [06:55<00:00
   ,  5.55it/s, Batch Loss=0.0740, Cls Loss=0.0306,
   Graph Loss=0.0434, Penalty=0.0001, LR=0.000086]
78 Epoch 13/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [12/30] □□, Average Loss: 0.1474,
   Classification Loss: 0.1186, Graph Loss: 0.0574,
   Penalty: 0.0024
79 Epoch 13/30: 100%|          | 2306/2306 [06:52<00:00
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79 ,  5.60it/s, Batch Loss=0.1609, Cls Loss=0.1065,
   Graph Loss=0.0544, Penalty=0.0000, LR=0.000082]
80 Epoch [13/30] □□, Average Loss: 0.1480,
   Classification Loss: 0.1191, Graph Loss: 0.0578,
   Penalty: 0.0023
81 Epoch 14/30: 100%|██████████| 2306/2306 [06:53<00:00
   ,  5.58it/s, Batch Loss=0.0723, Cls Loss=0.0293,
   Graph Loss=0.0431, Penalty=0.0001, LR=0.000077]
82 Epoch 15/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [14/30] □□, Average Loss: 0.1500,
   Classification Loss: 0.1210, Graph Loss: 0.0580,
   Penalty: 0.0025
83 Epoch 15/30: 100%|██████████| 2306/2306 [06:57<00:00
   ,  5.53it/s, Batch Loss=0.0941, Cls Loss=0.0500,
   Graph Loss=0.0442, Penalty=0.0002, LR=0.000071]
84 Epoch 16/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [15/30] □□, Average Loss: 0.1508,
   Classification Loss: 0.1217, Graph Loss: 0.0582,
   Penalty: 0.0026
85 Epoch 16/30: 100%|██████████| 2306/2306 [06:54<00:00
   ,  5.56it/s, Batch Loss=0.1559, Cls Loss=0.0916,
   Graph Loss=0.0644, Penalty=0.0001, LR=0.000065]
86 Epoch [16/30] □□, Average Loss: 0.1495,
   Classification Loss: 0.1203, Graph Loss: 0.0584,
   Penalty: 0.0026
87 Epoch 17/30: 100%|██████████| 2306/2306 [06:52<00:00
   ,  5.59it/s, Batch Loss=0.0612, Cls Loss=0.0288,
   Graph Loss=0.0325, Penalty=0.0004, LR=0.000059]
88 Epoch [17/30] □□, Average Loss: 0.1411,
   Classification Loss: 0.1119, Graph Loss: 0.0583,
   Penalty: 0.0020
89 Epoch 18/30: 100%|██████████| 2306/2306 [06:55<00:00
   ,  5.55it/s, Batch Loss=0.1209, Cls Loss=0.0729,
   Graph Loss=0.0480, Penalty=0.0001, LR=0.000053]
90 Epoch 19/30:   0%|          | 0/2306 [00:00<?, ?it/s
   ]Epoch [18/30] □□, Average Loss: 0.1486,
   Classification Loss: 0.1192, Graph Loss: 0.0588,
   Penalty: 0.0025
91 Epoch 19/30: 100%|██████████| 2306/2306 [06:53<00:00
   ,  5.57it/s, Batch Loss=0.0580, Cls Loss=0.0201,
   Graph Loss=0.0378, Penalty=0.0001, LR=0.000047]
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 92 Epoch 20/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [19/30] □□, Average Loss: 0.1521,
    Classification Loss: 0.1227, Graph Loss: 0.0587,
    Penalty: 0.0024
 93 Epoch 20/30: 100%|██████████| 2306/2306 [06:53<00:00
    ,  5.57it/s, Batch Loss=0.1720, Cls Loss=0.0904,
    Graph Loss=0.0816, Penalty=0.0000, LR=0.000041]
 94 Epoch 21/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [20/30] □□, Average Loss: 0.1503,
    Classification Loss: 0.1210, Graph Loss: 0.0588,
    Penalty: 0.0028
 95 Epoch 21/30: 100%|██████████| 2306/2306 [06:54<00:00
    ,  5.57it/s, Batch Loss=0.1144, Cls Loss=0.0496,
    Graph Loss=0.0648, Penalty=0.0002, LR=0.000035]
 96 Epoch 22/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [21/30] □□, Average Loss: 0.1507,
    Classification Loss: 0.1213, Graph Loss: 0.0589,
    Penalty: 0.0030
 97 Epoch 22/30: 100%|██████████| 2306/2306 [06:52<00:00
    ,  5.59it/s, Batch Loss=0.1335, Cls Loss=0.0930,
    Graph Loss=0.0405, Penalty=0.0001, LR=0.000029]
 98 Epoch [22/30] □□, Average Loss: 0.1548,
    Classification Loss: 0.1253, Graph Loss: 0.0589,
    Penalty: 0.0033
 99 Epoch 23/30: 100%|██████████| 2306/2306 [06:53<00:00
    ,  5.57it/s, Batch Loss=0.1382, Cls Loss=0.0814,
    Graph Loss=0.0568, Penalty=0.0000, LR=0.000023]
100 Epoch 24/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [23/30] □□, Average Loss: 0.1525,
    Classification Loss: 0.1231, Graph Loss: 0.0589,
    Penalty: 0.0030
101 Epoch 24/30: 100%|██████████| 2306/2306 [06:52<00:00
    ,  5.59it/s, Batch Loss=0.0588, Cls Loss=0.0167,
    Graph Loss=0.0421, Penalty=0.0001, LR=0.000018]
102 Epoch 25/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [24/30] □□, Average Loss: 0.1540,
    Classification Loss: 0.1244, Graph Loss: 0.0591,
    Penalty: 0.0031
103 Epoch 25/30: 100%|██████████| 2306/2306 [06:53<00:00
    ,  5.58it/s, Batch Loss=0.1393, Cls Loss=0.0572,
    Graph Loss=0.0821, Penalty=0.0000, LR=0.000014]
```

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104 Epoch 26/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [25/30] □□, Average Loss: 0.1591,
    Classification Loss: 0.1297, Graph Loss: 0.0590,
    Penalty: 0.0035
105 Epoch 26/30: 100%|██████████| 2306/2306 [06:54<00:00
    ,  5.56it/s, Batch Loss=0.1225, Cls Loss=0.0545,
    Graph Loss=0.0681, Penalty=0.0000, LR=0.000010]
106 Epoch 27/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [26/30] □□, Average Loss: 0.1658,
    Classification Loss: 0.1363, Graph Loss: 0.0591,
    Penalty: 0.0045
107 Epoch 27/30: 100%|██████████| 2306/2306 [06:52<00:00
    ,  5.59it/s, Batch Loss=0.0593, Cls Loss=0.0250,
    Graph Loss=0.0343, Penalty=0.0003, LR=0.000006]
108 Epoch 28/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [27/30] □□, Average Loss: 0.1707,
    Classification Loss: 0.1412, Graph Loss: 0.0590,
    Penalty: 0.0052
109 Epoch 28/30: 100%|██████████| 2306/2306 [06:52<00:00
    ,  5.59it/s, Batch Loss=0.1955, Cls Loss=0.1169,
    Graph Loss=0.0786, Penalty=0.0000, LR=0.000004]
110 Epoch 29/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [28/30] □□, Average Loss: 0.1736,
    Classification Loss: 0.1440, Graph Loss: 0.0591,
    Penalty: 0.0048
111 Epoch 29/30: 100%|██████████| 2306/2306 [06:53<00:00
    ,  5.57it/s, Batch Loss=0.0579, Cls Loss=0.0200,
    Graph Loss=0.0379, Penalty=0.0001, LR=0.000002]
112 Epoch 30/30:   0%|          | 0/2306 [00:00<?, ?it/s
    ]Epoch [29/30] □□, Average Loss: 0.1745,
    Classification Loss: 0.1450, Graph Loss: 0.0590,
    Penalty: 0.0048
113 Epoch 30/30: 100%|██████████| 2306/2306 [06:52<00:00
    ,  5.59it/s, Batch Loss=0.0579, Cls Loss=0.0203,
    Graph Loss=0.0376, Penalty=0.0001, LR=0.000000]
114 Epoch [30/30] □□, Average Loss: 0.1742,
    Classification Loss: 0.1447, Graph Loss: 0.0590,
    Penalty: 0.0045
115 □□□□□□□...
116
117 Evaluation:   0%|          | 0/288 [00:00<?, ?it/s]
```

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118 □□□□ C □□□□□: MultiModalNet.forward() missing 2
    required positional arguments: 'text_feature' and '
    meta'
119
120 Evaluation:   0%|          | 0/288 [00:28<?, ?it/s]
    Traceback (most recent call last):
121   File "D:\Toolbox App\PyCharm Professional\jbr\bin\
    D\□□□□□□□\PycharmProjects\eye_image_processing\
    training\train-1.py", line 133, in evaluate
122     grayscale_cam = grad_cam(input_tensor=grad_input
    , targets=targets)
123   File "D:\anaconda3\envs\pytorch2.0\lib\site-
    packages\pytorch_grad_cam\base_cam.py", line 186, in
     __call__
124     return self.forward(input_tensor, targets,
    eigen_smooth)
125   File "D:\anaconda3\envs\pytorch2.0\lib\site-
    packages\pytorch_grad_cam\base_cam.py", line 90, in
    forward
126     self.outputs = outputs = self.
    activations_and_grads(input_tensor)
127   File "D:\anaconda3\envs\pytorch2.0\lib\site-
    packages\pytorch_grad_cam\activations_and_gradients.
    py", line 42, in __call__
128     return self.model(x)
129   File "D:\anaconda3\envs\pytorch2.0\lib\site-
    packages\torch\nn\modules\module.py", line 1511, in
    _wrapped_call_impl
130     return self._call_impl(*args, **kwargs)
131   File "D:\anaconda3\envs\pytorch2.0\lib\site-
    packages\torch\nn\modules\module.py", line 1520, in
    _call_impl
132     return forward_call(*args, **kwargs)
133 TypeError: MultiModalNet.forward() missing 2
    required positional arguments: 'text_feature' and '
    meta'
134
135 Evaluation:   0%|          | 1/288 [00:28<2:16:46,
    28.59s/it]
136 Evaluation:   1%|          | 4/288 [00:28<25:46,  5.
    45s/it]
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137 Evaluation:   2%|▏          | 7/288 [00:28<11:56,  2.
    55s/it]
138 Evaluation:   3%|▏          | 10/288 [00:29<06:57,  1
    .50s/it]
139 Evaluation:   5%|▏          | 13/288 [00:29<04:24,  1
    .04it/s]
140 Evaluation:   5%|▏          | 15/288 [00:29<03:25,  1
    .33it/s]
141 Evaluation:   6%|▏          | 17/288 [00:30<02:31,  1
    .78it/s]
142 Evaluation:   7%|▏          | 19/288 [00:30<02:00,  2
    .23it/s]
143 Evaluation:   7%|▏          | 21/288 [00:30<01:33,  2
    .84it/s]
144 Evaluation:   8%|▏          | 22/288 [00:30<01:30,  2
    .94it/s]
145 Evaluation:   9%|▏          | 25/288 [00:31<00:59,  4
    .40it/s]
146 Evaluation:   9%|▏          | 26/288 [00:31<01:00,  4
    .30it/s]
147 Evaluation:  10%|▏          | 29/288 [00:31<00:41,  6
    .27it/s]
148 Evaluation:  11%|▏          | 31/288 [00:31<00:46,  5
    .57it/s]
149 Evaluation:  11%|▏          | 33/288 [00:32<00:37,  6
    .88it/s]
150 Evaluation:  12%|▏          | 35/288 [00:32<00:41,  6
    .11it/s]
151 Evaluation:  13%|▏          | 38/288 [00:32<00:37,  6
    .61it/s]
152 Evaluation:  14%|▏          | 40/288 [00:33<00:30,  8
    .04it/s]
153 Evaluation:  15%|▏          | 42/288 [00:33<00:39,  6
    .20it/s]
154 Evaluation:  16%|▏          | 45/288 [00:33<00:28,  8
    .59it/s]
155 Evaluation:  16%|▏          | 47/288 [00:33<00:30,  7
    .90it/s]
156 Evaluation:  17%|▏          | 49/288 [00:34<00:32,  7
    .32it/s]
157 Evaluation:  18%|▏          | 51/288 [00:34<00:32,  7
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157 .26it/s]
158 Evaluation:  18%|█         | 53/288 [00:34<00:33,  6
    .99it/s]
159 Evaluation:  19%|█         | 55/288 [00:35<00:31,  7
    .33it/s]
160 Evaluation:  20%|█         | 57/288 [00:35<00:29,  7
    .73it/s]
161 Evaluation:  20%|█         | 59/288 [00:35<00:32,  7
    .11it/s]
162 Evaluation:  21%|█         | 61/288 [00:35<00:30,  7
    .54it/s]
163 Evaluation:  22%|█         | 63/288 [00:36<00:26,  8
    .34it/s]
164 Evaluation:  23%|█         | 65/288 [00:36<00:30,  7
    .31it/s]
165 Evaluation:  24%|█         | 68/288 [00:36<00:22,  9
    .88it/s]
166 Evaluation:  24%|█         | 70/288 [00:36<00:27,  7
    .91it/s]
167 Evaluation:  25%|█         | 72/288 [00:37<00:23,  9
    .17it/s]
168 Evaluation:  26%|█         | 74/288 [00:37<00:34,  6
    .18it/s]
169 Evaluation:  26%|█         | 76/288 [00:37<00:27,  7
    .72it/s]
170 Evaluation:  27%|█         | 78/288 [00:38<00:30,  6
    .96it/s]
171 Evaluation:  28%|█         | 81/288 [00:38<00:30,  6
    .89it/s]
172 Evaluation:  29%|█         | 84/288 [00:38<00:22,  9
    .25it/s]
173 Evaluation:  30%|█         | 86/288 [00:39<00:25,  7
    .96it/s]
174 Evaluation:  31%|█         | 88/288 [00:39<00:23,  8
    .37it/s]
175 Evaluation:  31%|█         | 90/288 [00:39<00:24,  8
    .06it/s]
176 Evaluation:  32%|█         | 92/288 [00:39<00:25,  7
    .79it/s]
177 Evaluation:  32%|█         | 93/288 [00:40<00:28,  6
    .82it/s]
```

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178 Evaluation:  33%|███       | 96/288 [00:40<00:22,  8
    .37it/s]
179 Evaluation:  34%|███       | 97/288 [00:40<00:30,  6
    .36it/s]
180 Evaluation:  35%|███       | 100/288 [00:40<00:20,
    9.14it/s]
181 Evaluation:  35%|███       | 102/288 [00:41<00:24,
    7.74it/s]
182 Evaluation:  36%|███       | 105/288 [00:41<00:24,
    7.61it/s]
183 Evaluation:  38%|███       | 108/288 [00:41<00:18,
    10.00it/s]
184 Evaluation:  38%|███       | 110/288 [00:42<00:22,
    8.07it/s]
185 Evaluation:  39%|███       | 112/288 [00:42<00:21,
    8.07it/s]
186 Evaluation:  40%|███       | 114/288 [00:42<00:21,
    8.25it/s]
187 Evaluation:  40%|███       | 116/288 [00:42<00:20,
    8.24it/s]
188 Evaluation:  41%|███       | 117/288 [00:42<00:23,
    7.16it/s]
189 Evaluation:  41%|███       | 118/288 [00:43<00:26,
    6.34it/s]
190 Evaluation:  42%|███       | 121/288 [00:43<00:27,
    6.14it/s]
191 Evaluation:  42%|███       | 122/288 [00:43<00:29,
    5.57it/s]
192 Evaluation:  43%|███       | 124/288 [00:44<00:22,
    7.28it/s]
193 Evaluation:  43%|███       | 125/288 [00:44<00:22,
    7.16it/s]
194 Evaluation:  44%|███       | 126/288 [00:44<00:29,
    5.57it/s]
195 Evaluation:  44%|███       | 128/288 [00:44<00:21,
    7.40it/s]
196 Evaluation:  45%|███       | 130/288 [00:45<00:24,
    6.36it/s]
197 Evaluation:  46%|███       | 132/288 [00:45<00:19,
    8.20it/s]
198 Evaluation:  47%|███       | 134/288 [00:45<00:25,
```

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198 6.03it/s]
199 Evaluation:  48%|████▊     | 137/288 [00:45<00:17,
    8.67it/s]
200 Evaluation:  48%|████▊     | 139/288 [00:46<00:19,
    7.53it/s]
201 Evaluation:  49%|████▉     | 142/288 [00:46<00:19,
    7.35it/s]
202 Evaluation:  50%|████▉     | 144/288 [00:46<00:16,
    8.78it/s]
203 Evaluation:  51%|█████     | 146/288 [00:47<00:24,
    5.80it/s]
204 Evaluation:  52%|█████     | 149/288 [00:47<00:17,
    8.05it/s]
205 Evaluation:  52%|█████▏    | 151/288 [00:48<00:21,
    6.27it/s]
206 Evaluation:  53%|█████▎    | 153/288 [00:48<00:17,
    7.68it/s]
207 Evaluation:  54%|█████▎    | 155/288 [00:48<00:19,
    6.84it/s]
208 Evaluation:  55%|█████▍    | 158/288 [00:49<00:23,
    5.57it/s]
209 Evaluation:  56%|█████▌    | 161/288 [00:49<00:16,
    7.63it/s]
210 Evaluation:  57%|█████▋    | 163/288 [00:49<00:18,
    6.90it/s]
211 Evaluation:  57%|█████▋    | 165/288 [00:49<00:14,
    8.28it/s]
212 Evaluation:  58%|█████▊    | 167/288 [00:50<00:14,
    8.11it/s]
213 Evaluation:  59%|█████▊    | 169/288 [00:50<00:12,
    9.64it/s]
214 Evaluation:  59%|█████▉    | 171/288 [00:50<00:13,
    8.44it/s]
215 Evaluation:  60%|█████▉    | 174/288 [00:50<00:13,
    8.25it/s]
216 Evaluation:  61%|██████    | 177/288 [00:50<00:10,
    10.87it/s]
217 Evaluation:  62%|██████▏   | 179/288 [00:51<00:11,
    9.14it/s]
218 Evaluation:  63%|██████▎   | 182/288 [00:51<00:11,
    8.96it/s]
```

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219 Evaluation:  64%|[redacted]    | 185/288 [00:51<00:09,
    11.40it/s]
220 Evaluation:  65%|[redacted]    | 187/288 [00:52<00:11,
    9.04it/s]
221 Evaluation:  66%|[redacted]    | 190/288 [00:52<00:11,
    8.20it/s]
222 Evaluation:  67%|[redacted]    | 193/288 [00:52<00:09,
    10.30it/s]
223 Evaluation:  68%|[redacted]    | 195/288 [00:53<00:12,
    7.72it/s]
224 Evaluation:  69%|[redacted]    | 198/288 [00:53<00:11,
    7.61it/s]
225 Evaluation:  70%|[redacted]    | 201/288 [00:53<00:08,
    9.74it/s]
226 Evaluation:  70%|[redacted]    | 203/288 [00:54<00:09,
    8.77it/s]
227 Evaluation:  72%|[redacted]    | 206/288 [00:54<00:09,
    8.65it/s]
228 Evaluation:  72%|[redacted]    | 208/288 [00:54<00:08,
    9.15it/s]
229 Evaluation:  73%|[redacted]    | 210/288 [00:54<00:10,
    7.78it/s]
230 Evaluation:  74%|[redacted]    | 213/288 [00:55<00:07,
    10.14it/s]
231 Evaluation:  75%|[redacted]    | 215/288 [00:55<00:08,
    8.90it/s]
232 Evaluation:  76%|[redacted]    | 218/288 [00:55<00:08,
    8.47it/s]
233 Evaluation:  77%|[redacted]    | 221/288 [00:55<00:06,
    10.74it/s]
234 Evaluation:  77%|[redacted]    | 223/288 [00:56<00:06,
    9.52it/s]
235 Evaluation:  78%|[redacted]    | 225/288 [00:56<00:05,
    10.94it/s]
236 Evaluation:  79%|[redacted]    | 227/288 [00:56<00:07,
    7.96it/s]
237 Evaluation:  80%|[redacted]    | 230/288 [00:57<00:07,
    7.65it/s]
238 Evaluation:  81%|[redacted]    | 233/288 [00:57<00:05,
    9.65it/s]
239 Evaluation:  82%|[redacted]    | 235/288 [00:57<00:06,
```

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239 7.66it/s]
240 Evaluation:  83%|████████▎ | 238/288 [00:58<00:06,
    7.64it/s]
241 Evaluation:  84%|████████▍ | 241/288 [00:58<00:04,
    9.96it/s]
242 Evaluation:  84%|████████▍ | 243/288 [00:58<00:05,
    7.89it/s]
243 Evaluation:  85%|████████▍ | 245/288 [00:58<00:04,
    9.16it/s]
244 Evaluation:  86%|████████▌ | 247/288 [00:59<00:05,
    7.53it/s]
245 Evaluation:  87%|████████▋ | 250/288 [00:59<00:05,
    7.30it/s]
246 Evaluation:  88%|████████▊ | 253/288 [00:59<00:03,
    9.53it/s]
247 Evaluation:  89%|████████▊ | 255/288 [01:00<00:04,
    7.75it/s]
248 Evaluation:  90%|████████▉ | 258/288 [01:00<00:03,
    7.78it/s]
249 Evaluation:  91%|█████████ | 261/288 [01:00<00:02,
    9.93it/s]
250 Evaluation:  91%|█████████ | 263/288 [01:01<00:03,
    7.82it/s]
251 Evaluation:  92%|█████████▏| 266/288 [01:01<00:03,
    6.70it/s]
252 Evaluation:  93%|█████████▎| 269/288 [01:01<00:02,
    8.73it/s]
253 Evaluation:  94%|█████████▍| 271/288 [01:02<00:02,
    8.39it/s]
254 Evaluation:  95%|█████████▍| 274/288 [01:02<00:01,
    8.56it/s]
255 Evaluation:  96%|█████████▌| 277/288 [01:02<00:01,
    10.90it/s]
256 Evaluation:  97%|█████████▋| 279/288 [01:02<00:00,
    9.10it/s]
257 Evaluation:  98%|█████████▊| 282/288 [01:03<00:00,
    9.31it/s]
258 Evaluation:  99%|█████████▉| 285/288 [01:03<00:00,
    11.75it/s]
259 Evaluation: 100%|██████████| 287/288 [01:03<00:00,
    8.92it/s]
```

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260

261 □□□□□□□□
262 □□□□□□: 0.9340
263 Micro F1 □□: 0.9705
264 Macro F1 □□: 0.9649
265
266 □□□□□□□□
267 +--------+----------+----------+----------+----------+--------------------+
268 | □□   |   □□□ |   □□□ |   □□□ |   F1 □□ | □□□□/□□□ |
269 +========+==========+==========+==========+==========+====================+
270 | N      |   1      |   1      |   1      |    1     | 576/576            |
271 +--------+----------+----------+----------+----------+--------------------+
272 | D      |   0.9948 |   0.9904 |   0.981  |    0.9856 | 573/576           |
273 +--------+----------+----------+----------+----------+--------------------+
274 | G      |   0.9878 |   1      |   0.8293 |    0.9067 | 569/576           |
275 +--------+----------+----------+----------+----------+--------------------+
276 | C      |   0.9965 |   1      |   0.9512 |    0.975 | 574/576            |
277 +--------+----------+----------+----------+----------+--------------------+
278 | A      |   1      |   1      |   1      |    1     | 576/576            |
279 +--------+----------+----------+----------+----------+--------------------+
280 | H      |   0.9965 |   1      |   0.875  |    0.9333 | 574/576           |
281 +--------+----------+----------+----------+----------+--------------------+
282 | M      |   0.9983 |   1      |   0.9697 |    0.9846 | 575/576           |
283 +--------+----------+----------+----------+----------+--------------------+
```

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--+--------------------+
| 0       |   0.9566 |   0.967  |   0.9026 |    0.
9337 | 551/576           |
+--------+----------+----------+----------+---------
--+--------------------+
□□□□□□ D:\Toolbox App\PyCharm Professional\jbr\bin\D
\□□□□□□□\PycharmProjects\eye_image_processing\models
\multimodal_model.pth

□□□□□□□□□□□ 0

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