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1 D:\Python312\venv\deep_learning\Scripts\python.exe "D:\School\
  JanJan\College\1 Projects\ESC12\ESC 12 Project\model_codes\
  waste_class_model_0.py"
2 ['biodegradable', 'non-biodegradable', 'recyclable']
3
4 Starting Training...
5 0%|          | 0/20 [00:00<?, ?it/s]Finished Training...
6
7 Starting Testing...
8
9 5%|█          | 1/20 [03:45<1:11:30, 225.80s/it]Finished Testing...
10
11
12 Epoch: 1 | train_loss: 0.9976 | train_acc: 0.6324 | test_loss: 0.9278
   | test_acc: 0.6663
13
14
15 Starting Training...
16 Finished Training...
17
18 Starting Testing...
19
20 10%|██         | 2/20 [07:31<1:07:42, 225.68s/it]Finished Testing...
21
22
23 Epoch: 2 | train_loss: 0.8529 | train_acc: 0.7296 | test_loss: 0.8110
   | test_acc: 0.7659
24
25
26 Starting Training...
27 Finished Training...
28
29 Starting Testing...
30
31 15%|███        | 3/20 [11:14<1:03:33, 224.32s/it]Finished Testing...
32
33
34 Epoch: 3 | train_loss: 0.7523 | train_acc: 0.7859 | test_loss: 0.7276
   | test_acc: 0.8294
35
36
37 Starting Training...
38 Finished Training...
39
40 Starting Testing...
41
42 20%|████       | 4/20 [14:57<59:45, 224.09s/it] Finished Testing...
43
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44
45 Epoch: 4 | train_loss: 0.6775 | train_acc: 0.8202 | test_loss: 0.6575
   | test_acc: 0.8607
46
47
48 Starting Training...
49 Finished Training...
50
51 Starting Testing...
52
53 25%|██████    | 5/20 [18:40<55:53, 223.54s/it]Finished Testing...
54
55
56 Epoch: 5 | train_loss: 0.6221 | train_acc: 0.8330 | test_loss: 0.6024
   | test_acc: 0.8697
57
58
59 Starting Training...
60 Finished Training...
61
62 Starting Testing...
63
64 30%|██████    | 6/20 [22:22<52:02, 223.03s/it]Finished Testing...
65
66
67 Epoch: 6 | train_loss: 0.5757 | train_acc: 0.8484 | test_loss: 0.5697
   | test_acc: 0.8708
68
69
70 Starting Training...
71 Finished Training...
72
73 Starting Testing...
74
75 Finished Testing...
76
77
78 Epoch: 7 | train_loss: 0.5459 | train_acc: 0.8522 | test_loss: 0.5351
   | test_acc: 0.8792
79
80
81 Starting Training...
82 35%|██████    | 7/20 [26:02<48:06, 222.05s/it]Finished Training...
83
84 Starting Testing...
85
86 40%|██████    | 8/20 [29:42<44:15, 221.32s/it]Finished Testing...
87
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88
89 Epoch: 8 | train_loss: 0.5197 | train_acc: 0.8552 | test_loss: 0.
   5070 | test_acc: 0.8824
90
91
92 Starting Training...
93 Finished Training...
94
95 Starting Testing...
96
97 45%|██████████ | 9/20 [33:22<40:31, 221.06s/it]Finished Testing...
98
99
100 Epoch: 9 | train_loss: 0.4927 | train_acc: 0.8604 | test_loss: 0.
    4781 | test_acc: 0.8845
101
102
103 Starting Training...
104 Finished Training...
105
106 Starting Testing...
107
108 50%|██████████ | 10/20 [37:02<36:47, 220.72s/it]Finished Testing...
109
110
111 Epoch: 10 | train_loss: 0.4736 | train_acc: 0.8642 | test_loss: 0.
    4607 | test_acc: 0.8877
112
113
114 Starting Training...
115 Finished Training...
116
117 Starting Testing...
118
119 55%|██████████ | 11/20 [40:42<33:03, 220.42s/it]Finished Testing
    ...
120
121
122 Epoch: 11 | train_loss: 0.4551 | train_acc: 0.8680 | test_loss: 0.
    4485 | test_acc: 0.8904
123
124
125 Starting Training...
126 Finished Training...
127
128 Starting Testing...
129
130 Finished Testing...
```

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131
132
133 Epoch: 12 | train_loss: 0.4434 | train_acc: 0.8688 | test_loss: 0.
    4234 | test_acc: 0.8946
134
135
136 Starting Training...
137 60%|██████████ | 12/20 [44:22<29:21, 220.20s/it]Finished Training
    ...
138
139 Starting Testing...
140
141 Finished Testing...
142
143
144 Epoch: 13 | train_loss: 0.4301 | train_acc: 0.8675 | test_loss: 0.
    4142 | test_acc: 0.8930
145
146
147 Starting Training...
148 65%|██████████ | 13/20 [48:01<25:40, 220.06s/it]Finished
    Training...
149
150 Starting Testing...
151
152 70%|██████████ | 14/20 [51:41<21:59, 219.90s/it]Finished Testing
    ...
153
154
155 Epoch: 14 | train_loss: 0.4169 | train_acc: 0.8737 | test_loss: 0.
    3930 | test_acc: 0.8983
156
157
158 Starting Training...
159 Finished Training...
160
161 Starting Testing...
162
163 75%|██████████ | 15/20 [55:21<18:20, 220.02s/it]Finished
    Testing...
164
165
166 Epoch: 15 | train_loss: 0.4047 | train_acc: 0.8752 | test_loss: 0.
    3851 | test_acc: 0.8941
167
168
169 Starting Training...
170 Finished Training...
```

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171
172 Starting Testing...
173
174 80%|██████████ | 16/20 [59:01<14:39, 219.88s/it]Finished
Testing...
175
176
177 Epoch: 16 | train_loss: 0.3984 | train_acc: 0.8755 | test_loss: 0.
3799 | test_acc: 0.8967
178
179
180 Starting Training...
181 Finished Training...
182
183 Starting Testing...
184
185 85%|██████████ | 17/20 [1:02:41<10:59, 219.90s/it]Finished
Testing...
186
187
188 Epoch: 17 | train_loss: 0.3912 | train_acc: 0.8763 | test_loss: 0.
3687 | test_acc: 0.8994
189
190
191 Starting Training...
192 Finished Training...
193
194 Starting Testing...
195
196 90%|██████████ | 18/20 [1:06:20<07:19, 219.85s/it]Finished
Testing...
197
198
199 Epoch: 18 | train_loss: 0.3814 | train_acc: 0.8810 | test_loss: 0.
3688 | test_acc: 0.8994
200
201
202 Starting Training...
203 Finished Training...
204
205 Starting Testing...
206
207 Finished Testing...
208
209
210 Epoch: 19 | train_loss: 0.3768 | train_acc: 0.8806 | test_loss: 0.
3558 | test_acc: 0.8962
211
```

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212
213 Starting Training...
214 95%|██████████| 19/20 [1:10:03<03:40, 220.56s/it]Finished
    Training...
215
216 Starting Testing...
217
218 100%|██████████| 20/20 [1:13:46<00:00, 221.33s/it]
219 Finished Testing...
220
221
222 Epoch: 20 | train_loss: 0.3714 | train_acc: 0.8792 | test_loss: 0.
    3499 | test_acc: 0.9031
223
224 [INFO] Total training time: 4426.681 seconds
225 Saving model to: ..\models\waste_class_model_3.pth
226
227 Process finished with exit code 0
228
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