```
1 C:\Users\Matthew\anaconda3\python.exe C:/Users/
  Matthew/Desktop/Pneumonia_Xray/LoadTrainTest.py
3 Epoch 1 of 25
4 -----
5 train Accuracy: 89.89% Loss: 23.24
6 val Accuracy: 87.50% Loss: 37.07
8 Epoch 2 of 25
9 -----
10 train Accuracy: 93.65% Loss: 16.29
11 val Accuracy: 86.88% Loss: 39.97
12
13 Epoch 3 of 25
14 -----
15 train Accuracy: 94.58% Loss: 14.15
16 val Accuracy: 89.38% Loss: 29.96
17
18 Epoch 4 of 25
19 -----
20 train Accuracy: 94.28% Loss: 14.45
21 val Accuracy: 88.75% Loss: 33.10
22
23 Epoch 5 of 25
24 -----
25 train Accuracy: 94.87% Loss: 13.37
26 val Accuracy: 88.75% Loss: 50.65
27
28 Epoch 6 of 25
29 -----
30 train Accuracy: 94.99% Loss: 12.66
31 val Accuracy: 90.62% Loss: 38.67
32
33 Epoch 7 of 25
34 -----
35 train Accuracy: 95.31% Loss: 11.93
36 val Accuracy: 91.25% Loss: 33.51
37
38 Epoch 8 of 25
39 -----
40 train Accuracy: 95.62% Loss: 11.54
41 val Accuracy: 89.38% Loss: 38.49
42
43 Epoch 9 of 25
```

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45 train Accuracy: 95.68% Loss: 11.52
46 val Accuracy: 90.00% Loss: 39.16
47
48 Epoch 10 of 25
49 -----
50 train Accuracy: 95.52% Loss: 11.33
51 val Accuracy: 91.25% Loss: 35.52
52
53 Epoch 11 of 25
54 -----
55 train Accuracy: 95.50% Loss: 10.77
56 val Accuracy: 86.88% Loss: 42.26
57
58 Epoch 12 of 25
59 -----
60 train Accuracy: 96.10% Loss: 10.43
61 val Accuracy: 89.38% Loss: 33.21
62
63 Epoch 13 of 25
64 -----
65 train Accuracy: 96.10% Loss: 10.47
66 val Accuracy: 92.50% Loss: 36.49
67
68 Epoch 14 of 25
69 -----
70 train Accuracy: 96.16% Loss: 9.93
71 val Accuracy: 91.88% Loss: 42.74
72
73 Epoch 15 of 25
75 train Accuracy: 96.04% Loss: 10.06
76 val Accuracy: 92.50% Loss: 34.27
77
78 Epoch 16 of 25
79 -----
80 train Accuracy: 96.55% Loss: 9.13
81 val Accuracy: 87.50% Loss: 33.97
82
83 Epoch 17 of 25
84 -----
85 train Accuracy: 96.25% Loss: 9.68
86 val Accuracy: 89.38% Loss: 46.78
87
```

```
88 Epoch 18 of 25
89 -----
90 train Accuracy: 96.35% Loss: 9.58
91 val Accuracy: 90.00% Loss: 41.51
92
93 Epoch 19 of 25
94 -----
95 train Accuracy: 96.73% Loss: 8.84
96 val Accuracy: 90.00% Loss: 56.28
97
98 Epoch 20 of 25
99 -----
100 train Accuracy: 96.51% Loss: 8.83
101 val Accuracy: 88.75% Loss: 51.40
102
103 Epoch 21 of 25
104 -----
105 train Accuracy: 96.75% Loss: 8.58
106 val Accuracy: 91.88% Loss: 44.62
107
108 Epoch 22 of 25
109 -----
110 train Accuracy: 96.73% Loss: 8.66
111 val Accuracy: 92.50% Loss: 37.12
112
113 Epoch 23 of 25
114 -----
115 train Accuracy: 96.87% Loss: 7.87
116 val Accuracy: 91.88% Loss: 34.51
117
118 Epoch 24 of 25
119 -----
120 train Accuracy: 97.10% Loss: 7.82
121 val Accuracy: 89.38% Loss: 50.53
122
123 Epoch 25 of 25
124 -----
125 train Accuracy: 97.28% Loss: 7.83
126 val Accuracy: 89.38% Loss: 35.66
127 Training finished in 115m 6s
128 Best validation accuracy: 92.50% at epoch 22
129
130 The trained neural net model has an accuracy of 85.
  90% on the test dataset.
```

| 131 | A C I NODMAL EZ OFFO                 |
|-----|--------------------------------------|
|     | Accuracy of class NORMAL: 73.077%    |
|     | Accuracy of class PNEUMONIA: 93.590% |
| 134 |                                      |
|     | Process finished with exit code 0    |
| 136 |                                      |
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