**RESNET50 Training:**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 242ms/step - accuracy: 0.5369 - loss: 0.8750**

**Epoch 1: val\_loss improved from inf to 0.70705, saving model to best\_model\_epoch\_01.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 28s 278ms/step - accuracy: 0.5382 - loss: 0.8678 - val\_accuracy: 0.4211 - val\_loss: 0.7070 - learning\_rate: 0.0010**

**Epoch 2/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 185ms/step - accuracy: 0.5846 - loss: 0.6830**

**Epoch 2: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 30s 191ms/step - accuracy: 0.5850 - loss: 0.6831 - val\_accuracy: 0.2998 - val\_loss: 0.9048 - learning\_rate: 0.0010**

**Epoch 3/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.5967 - loss: 0.6813**

**Epoch 3: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.5963 - loss: 0.6813 - val\_accuracy: 0.2975 - val\_loss: 1.2951 - learning\_rate: 0.0010**

**Epoch 4/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 181ms/step - accuracy: 0.5746 - loss: 0.6838**

**Epoch 4: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 188ms/step - accuracy: 0.5756 - loss: 0.6832 - val\_accuracy: 0.3089 - val\_loss: 1.0019 - learning\_rate: 0.0010**

**Epoch 5/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 181ms/step - accuracy: 0.6043 - loss: 0.6643**

**Epoch 5: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 13s 186ms/step - accuracy: 0.6037 - loss: 0.6643 - val\_accuracy: 0.3135 - val\_loss: 0.8792 - learning\_rate: 2.0000e-04**

**Epoch 6/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 184ms/step - accuracy: 0.6145 - loss: 0.6540**

**Epoch 6: val\_loss improved from 0.70705 to 0.70238, saving model to best\_model\_epoch\_06.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 191ms/step - accuracy: 0.6141 - loss: 0.6544 - val\_accuracy: 0.6247 - val\_loss: 0.7024 - learning\_rate: 2.0000e-04**

**Epoch 7/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 183ms/step - accuracy: 0.6178 - loss: 0.6552**

**Epoch 7: val\_loss improved from 0.70238 to 0.64758, saving model to best\_model\_epoch\_07.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 189ms/step - accuracy: 0.6170 - loss: 0.6555 - val\_accuracy: 0.7185 - val\_loss: 0.6476 - learning\_rate: 2.0000e-04**

**Epoch 8/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6314 - loss: 0.6501**

**Epoch 8: val\_loss improved from 0.64758 to 0.61185, saving model to best\_model\_epoch\_08.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6301 - loss: 0.6506 - val\_accuracy: 0.7277 - val\_loss: 0.6119 - learning\_rate: 2.0000e-04**

**Epoch 9/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 180ms/step - accuracy: 0.6195 - loss: 0.6529**

**Epoch 9: val\_loss improved from 0.61185 to 0.60755, saving model to best\_model\_epoch\_09.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6195 - loss: 0.6528 - val\_accuracy: 0.6911 - val\_loss: 0.6076 - learning\_rate: 2.0000e-04**

**Epoch 10/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6093 - loss: 0.6664**

**Epoch 10: val\_loss improved from 0.60755 to 0.56545, saving model to best\_model\_epoch\_10.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6095 - loss: 0.6659 - val\_accuracy: 0.7254 - val\_loss: 0.5654 - learning\_rate: 2.0000e-04**

**Epoch 11/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 185ms/step - accuracy: 0.6173 - loss: 0.6511**

**Epoch 11: val\_loss did not improve from 0.56545**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 191ms/step - accuracy: 0.6174 - loss: 0.6510 - val\_accuracy: 0.7368 - val\_loss: 0.5677 - learning\_rate: 2.0000e-04**

**Epoch 12/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6115 - loss: 0.6513**

**Epoch 12: val\_loss improved from 0.56545 to 0.55422, saving model to best\_model\_epoch\_12.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6124 - loss: 0.6510 - val\_accuracy: 0.7254 - val\_loss: 0.5542 - learning\_rate: 2.0000e-04**

**Epoch 13/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 181ms/step - accuracy: 0.6346 - loss: 0.6467**

**Epoch 13: val\_loss did not improve from 0.55422**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 187ms/step - accuracy: 0.6347 - loss: 0.6465 - val\_accuracy: 0.7300 - val\_loss: 0.5545 - learning\_rate: 2.0000e-04**

**Epoch 14/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6355 - loss: 0.6480**

**Epoch 14: val\_loss did not improve from 0.55422**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 198ms/step - accuracy: 0.6363 - loss: 0.6473 - val\_accuracy: 0.6453 - val\_loss: 0.6299 - learning\_rate: 2.0000e-04**

**Epoch 15/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 184ms/step - accuracy: 0.6247 - loss: 0.6435**

**Epoch 15: val\_loss did not improve from 0.55422**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 13s 190ms/step - accuracy: 0.6249 - loss: 0.6428 - val\_accuracy: 0.6453 - val\_loss: 0.6228 - learning\_rate: 2.0000e-04**

**Epoch 16/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6388 - loss: 0.6331**

**Epoch 16: val\_loss improved from 0.55422 to 0.54460, saving model to best\_model\_epoch\_16.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6395 - loss: 0.6327 - val\_accuracy: 0.7300 - val\_loss: 0.5446 - learning\_rate: 4.0000e-05**

**Epoch 17/20**

**63/65 ━━━━━━━━━━━━━━━━━━━━ 0s 179ms/step - accuracy: 0.6643 - loss: 0.6206**

**Epoch 17: val\_loss did not improve from 0.54460**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 187ms/step - accuracy: 0.6639 - loss: 0.6207 - val\_accuracy: 0.7231 - val\_loss: 0.5493 - learning\_rate: 4.0000e-05**

**Epoch 18/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 183ms/step - accuracy: 0.6716 - loss: 0.6068**

**Epoch 18: val\_loss improved from 0.54460 to 0.53744, saving model to best\_model\_epoch\_18.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 13s 190ms/step - accuracy: 0.6711 - loss: 0.6070 - val\_accuracy: 0.7277 - val\_loss: 0.5374 - learning\_rate: 4.0000e-05**

**Epoch 19/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 184ms/step - accuracy: 0.6628 - loss: 0.6133**

**Epoch 19: val\_loss improved from 0.53744 to 0.52747, saving model to best\_model\_epoch\_19.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 191ms/step - accuracy: 0.6630 - loss: 0.6131 - val\_accuracy: 0.7414 - val\_loss: 0.5275 - learning\_rate: 4.0000e-05**

**Epoch 20/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 188ms/step - accuracy: 0.6547 - loss: 0.6166**

**Epoch 20: val\_loss did not improve from 0.52747**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 21s 193ms/step - accuracy: 0.6554 - loss: 0.6161 - val\_accuracy: 0.7346 - val\_loss: 0.5318 - learning\_rate: 4.0000e-05**

**VGG Training:**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 242ms/step - accuracy: 0.5369 - loss: 0.8750**

**Epoch 1: val\_loss improved from inf to 0.70705, saving model to best\_model\_epoch\_01.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 28s 278ms/step - accuracy: 0.5382 - loss: 0.8678 - val\_accuracy: 0.4211 - val\_loss: 0.7070 - learning\_rate: 0.0010**

**Epoch 2/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 185ms/step - accuracy: 0.5846 - loss: 0.6830**

**Epoch 2: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 30s 191ms/step - accuracy: 0.5850 - loss: 0.6831 - val\_accuracy: 0.2998 - val\_loss: 0.9048 - learning\_rate: 0.0010**

**Epoch 3/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.5967 - loss: 0.6813**

**Epoch 3: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.5963 - loss: 0.6813 - val\_accuracy: 0.2975 - val\_loss: 1.2951 - learning\_rate: 0.0010**

**Epoch 4/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 181ms/step - accuracy: 0.5746 - loss: 0.6838**

**Epoch 4: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 188ms/step - accuracy: 0.5756 - loss: 0.6832 - val\_accuracy: 0.3089 - val\_loss: 1.0019 - learning\_rate: 0.0010**

**Epoch 5/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 181ms/step - accuracy: 0.6043 - loss: 0.6643**

**Epoch 5: val\_loss did not improve from 0.70705**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 13s 186ms/step - accuracy: 0.6037 - loss: 0.6643 - val\_accuracy: 0.3135 - val\_loss: 0.8792 - learning\_rate: 2.0000e-04**

**Epoch 6/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 184ms/step - accuracy: 0.6145 - loss: 0.6540**

**Epoch 6: val\_loss improved from 0.70705 to 0.70238, saving model to best\_model\_epoch\_06.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 191ms/step - accuracy: 0.6141 - loss: 0.6544 - val\_accuracy: 0.6247 - val\_loss: 0.7024 - learning\_rate: 2.0000e-04**

**Epoch 7/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 183ms/step - accuracy: 0.6178 - loss: 0.6552**

**Epoch 7: val\_loss improved from 0.70238 to 0.64758, saving model to best\_model\_epoch\_07.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 189ms/step - accuracy: 0.6170 - loss: 0.6555 - val\_accuracy: 0.7185 - val\_loss: 0.6476 - learning\_rate: 2.0000e-04**

**Epoch 8/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6314 - loss: 0.6501**

**Epoch 8: val\_loss improved from 0.64758 to 0.61185, saving model to best\_model\_epoch\_08.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6301 - loss: 0.6506 - val\_accuracy: 0.7277 - val\_loss: 0.6119 - learning\_rate: 2.0000e-04**

**Epoch 9/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 180ms/step - accuracy: 0.6195 - loss: 0.6529**

**Epoch 9: val\_loss improved from 0.61185 to 0.60755, saving model to best\_model\_epoch\_09.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6195 - loss: 0.6528 - val\_accuracy: 0.6911 - val\_loss: 0.6076 - learning\_rate: 2.0000e-04**

**Epoch 10/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6093 - loss: 0.6664**

**Epoch 10: val\_loss improved from 0.60755 to 0.56545, saving model to best\_model\_epoch\_10.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6095 - loss: 0.6659 - val\_accuracy: 0.7254 - val\_loss: 0.5654 - learning\_rate: 2.0000e-04**

**Epoch 11/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 185ms/step - accuracy: 0.6173 - loss: 0.6511**

**Epoch 11: val\_loss did not improve from 0.56545**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 191ms/step - accuracy: 0.6174 - loss: 0.6510 - val\_accuracy: 0.7368 - val\_loss: 0.5677 - learning\_rate: 2.0000e-04**

**Epoch 12/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6115 - loss: 0.6513**

**Epoch 12: val\_loss improved from 0.56545 to 0.55422, saving model to best\_model\_epoch\_12.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6124 - loss: 0.6510 - val\_accuracy: 0.7254 - val\_loss: 0.5542 - learning\_rate: 2.0000e-04**

**Epoch 13/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 181ms/step - accuracy: 0.6346 - loss: 0.6467**

**Epoch 13: val\_loss did not improve from 0.55422**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 187ms/step - accuracy: 0.6347 - loss: 0.6465 - val\_accuracy: 0.7300 - val\_loss: 0.5545 - learning\_rate: 2.0000e-04**

**Epoch 14/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6355 - loss: 0.6480**

**Epoch 14: val\_loss did not improve from 0.55422**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 198ms/step - accuracy: 0.6363 - loss: 0.6473 - val\_accuracy: 0.6453 - val\_loss: 0.6299 - learning\_rate: 2.0000e-04**

**Epoch 15/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 184ms/step - accuracy: 0.6247 - loss: 0.6435**

**Epoch 15: val\_loss did not improve from 0.55422**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 13s 190ms/step - accuracy: 0.6249 - loss: 0.6428 - val\_accuracy: 0.6453 - val\_loss: 0.6228 - learning\_rate: 2.0000e-04**

**Epoch 16/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 186ms/step - accuracy: 0.6388 - loss: 0.6331**

**Epoch 16: val\_loss improved from 0.55422 to 0.54460, saving model to best\_model\_epoch\_16.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 193ms/step - accuracy: 0.6395 - loss: 0.6327 - val\_accuracy: 0.7300 - val\_loss: 0.5446 - learning\_rate: 4.0000e-05**

**Epoch 17/20**

**63/65 ━━━━━━━━━━━━━━━━━━━━ 0s 179ms/step - accuracy: 0.6643 - loss: 0.6206**

**Epoch 17: val\_loss did not improve from 0.54460**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 20s 187ms/step - accuracy: 0.6639 - loss: 0.6207 - val\_accuracy: 0.7231 - val\_loss: 0.5493 - learning\_rate: 4.0000e-05**

**Epoch 18/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 183ms/step - accuracy: 0.6716 - loss: 0.6068**

**Epoch 18: val\_loss improved from 0.54460 to 0.53744, saving model to best\_model\_epoch\_18.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 13s 190ms/step - accuracy: 0.6711 - loss: 0.6070 - val\_accuracy: 0.7277 - val\_loss: 0.5374 - learning\_rate: 4.0000e-05**

**Epoch 19/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 184ms/step - accuracy: 0.6628 - loss: 0.6133**

**Epoch 19: val\_loss improved from 0.53744 to 0.52747, saving model to best\_model\_epoch\_19.keras**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 14s 191ms/step - accuracy: 0.6630 - loss: 0.6131 - val\_accuracy: 0.7414 - val\_loss: 0.5275 - learning\_rate: 4.0000e-05**

**Epoch 20/20**

**62/65 ━━━━━━━━━━━━━━━━━━━━ 0s 188ms/step - accuracy: 0.6547 - loss: 0.6166**

**Epoch 20: val\_loss did not improve from 0.52747**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 21s 193ms/step - accuracy: 0.6554 - loss: 0.6161 - val\_accuracy: 0.7346 - val\_loss: 0.5318 - learning\_rate: 4.0000e-05**

**Custom CNN Training (Best Model):**

**Epoch 1/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 19s 122ms/step - accuracy: 0.5889 - loss: 0.8074 - val\_accuracy: 0.6979 - val\_loss: 0.6694**

**Epoch 2/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 7s 12ms/step - accuracy: 0.7777 - loss: 0.5043 - val\_accuracy: 0.3447 - val\_loss: 0.8284**

**Epoch 3/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 0.8978 - loss: 0.2774 - val\_accuracy: 0.3319 - val\_loss: 1.3780**

**Epoch 4/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 10ms/step - accuracy: 0.9609 - loss: 0.1557 - val\_accuracy: 0.3532 - val\_loss: 1.6952**

**Epoch 5/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 10ms/step - accuracy: 0.9534 - loss: 0.1502 - val\_accuracy: 0.3362 - val\_loss: 2.7481**

**Epoch 6/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 12ms/step - accuracy: 0.9866 - loss: 0.0755 - val\_accuracy: 0.3574 - val\_loss: 2.9691**

**Epoch 7/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 12ms/step - accuracy: 0.9832 - loss: 0.0724 - val\_accuracy: 0.3532 - val\_loss: 4.4064**

**Epoch 8/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 13ms/step - accuracy: 0.9816 - loss: 0.0756 - val\_accuracy: 0.6085 - val\_loss: 1.6429**

**Epoch 9/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 14ms/step - accuracy: 0.9840 - loss: 0.0643 - val\_accuracy: 0.8298 - val\_loss: 0.5034**

**Epoch 10/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 16ms/step - accuracy: 0.9798 - loss: 0.0695 - val\_accuracy: 0.9489 - val\_loss: 0.1607**

**Epoch 11/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 15ms/step - accuracy: 0.9970 - loss: 0.0355 - val\_accuracy: 0.9957 - val\_loss: 0.0317**

**Epoch 12/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 15ms/step - accuracy: 0.9975 - loss: 0.0259 - val\_accuracy: 0.9915 - val\_loss: 0.0418**

**Epoch 13/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 0.9947 - loss: 0.0325 - val\_accuracy: 1.0000 - val\_loss: 0.0197**

**Epoch 14/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 0.9908 - loss: 0.0394 - val\_accuracy: 0.9404 - val\_loss: 0.4757**

**Epoch 15/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 0.9525 - loss: 0.1627 - val\_accuracy: 0.9915 - val\_loss: 0.0413**

**Epoch 16/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 0.9872 - loss: 0.0491 - val\_accuracy: 1.0000 - val\_loss: 0.0181**

**Epoch 17/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 0.9997 - loss: 0.0226 - val\_accuracy: 1.0000 - val\_loss: 0.0174**

**Epoch 18/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 11ms/step - accuracy: 1.0000 - loss: 0.0168 - val\_accuracy: 1.0000 - val\_loss: 0.0154**

**Epoch 19/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 12ms/step - accuracy: 1.0000 - loss: 0.0153 - val\_accuracy: 1.0000 - val\_loss: 0.0145**

**Epoch 20/20**

**65/65 ━━━━━━━━━━━━━━━━━━━━ 1s 12ms/step - accuracy: 1.0000 - loss: 0.0143 - val\_accuracy: 1.0000 - val\_loss: 0.0136**