```
Last login: Thu Mar 20 14:09:25 on ttys003
(base) athis@MacBook-Air-5 ~ % cd ~/Desktop

(base) athis@MacBook-Air-5 Desktop % cd Athish_SaiDL_Assignment

(base) athis@MacBook-Air-5 Athish_SaiDL_Assignment % source coreml/
bin/activate

(coreml) (base) athis@MacBook-Air-5 Athish_SaiDL_Assignment % cd
coreml
(coreml) (base) athis@MacBook-Air-5 coreml % python CoreML.py
100.0%
Starting experiments with symmetric noise...

=== Training with symmetric noise rate η = 0.2 ===

--- Training with CE ---
Epoch 10/100, Train Acc: 61.33%, Test Acc: 74.35%
Epoch 20/100, Train Acc: 70.08%, Test Acc: 74.63%
Epoch 30/100, Train Acc: 76.16%, Test Acc: 71.40%
Epoch 40/100, Train Acc: 81.77%, Test Acc: 68.42%
Epoch 50/100, Train Acc: 86.99%, Test Acc: 68.83%
Epoch 60/100, Train Acc: 92.02%, Test Acc: 67.71%
Epoch 70/100, Train Acc: 96.02%, Test Acc: 67.38%
Epoch 80/100, Train Acc: 98.29%, Test Acc: 67.01%
Epoch 90/100, Train Acc: 98.94%, Test Acc: 67.24%
Epoch 100/100, Train Acc: 99.14%, Test Acc: 67.43%
Best Test Accuracy with CE: 77.44%


--- Training with FL ---
Epoch 10/100, Train Acc: 59.28%, Test Acc: 75.61%
Epoch 20/100, Train Acc: 67.77%, Test Acc: 74.60%
Epoch 30/100, Train Acc: 73.37%, Test Acc: 70.45%
Epoch 40/100, Train Acc: 79.81%, Test Acc: 66.25%
Epoch 50/100, Train Acc: 86.05%, Test Acc: 66.22%
Epoch 60/100, Train Acc: 91.73%, Test Acc: 65.95%
Epoch 70/100, Train Acc: 96.30%, Test Acc: 67.36%
Epoch 80/100, Train Acc: 98.17%, Test Acc: 67.14%
Epoch 90/100, Train Acc: 98.66%, Test Acc: 67.36%
Epoch 100/100, Train Acc: 98.80%, Test Acc: 67.69%
Best Test Accuracy with FL: 75.61%


--- Training with NCE ---
Epoch 10/100, Train Acc: 40.78%, Test Acc: 53.97%
Epoch 20/100, Train Acc: 46.38%, Test Acc: 57.54%
Epoch 30/100, Train Acc: 48.74%, Test Acc: 61.10%
Epoch 40/100, Train Acc: 50.99%, Test Acc: 60.29%
Epoch 50/100, Train Acc: 52.56%, Test Acc: 60.87%
Epoch 60/100, Train Acc: 54.93%, Test Acc: 60.05%
Epoch 70/100, Train Acc: 57.13%, Test Acc: 57.81%
Epoch 80/100, Train Acc: 59.59%, Test Acc: 59.90%
Epoch 90/100, Train Acc: 62.04%, Test Acc: 60.20%
Epoch 100/100, Train Acc: 62.91%, Test Acc: 59.67%
Best Test Accuracy with NCE: 63.53%
```

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--- Training with NFL ---
Epoch 10/100, Train Acc: 45.40%, Test Acc: 57.58%
Epoch 20/100, Train Acc: 51.21%, Test Acc: 64.03%
Epoch 30/100, Train Acc: 53.83%, Test Acc: 66.28%
Epoch 40/100, Train Acc: 56.03%, Test Acc: 65.70%
Epoch 50/100, Train Acc: 57.46%, Test Acc: 65.90%
Epoch 60/100, Train Acc: 59.47%, Test Acc: 52.28%
Epoch 70/100, Train Acc: 62.74%, Test Acc: 60.58%
Epoch 80/100, Train Acc: 66.65%, Test Acc: 56.41%
Epoch 90/100, Train Acc: 69.94%, Test Acc: 56.61%
Epoch 100/100, Train Acc: 70.97%, Test Acc: 56.19%
Best Test Accuracy with NFL: 66.28%

--- Training with MAE ---
Epoch 10/100, Train Acc: 45.29%, Test Acc: 53.45%
Epoch 20/100, Train Acc: 50.03%, Test Acc: 58.19%
Epoch 30/100, Train Acc: 55.54%, Test Acc: 63.47%
Epoch 40/100, Train Acc: 59.01%, Test Acc: 64.06%
Epoch 50/100, Train Acc: 61.91%, Test Acc: 65.97%
Epoch 60/100, Train Acc: 64.08%, Test Acc: 65.36%
Epoch 70/100, Train Acc: 65.72%, Test Acc: 64.92%
Epoch 80/100, Train Acc: 66.56%, Test Acc: 65.01%
Epoch 90/100, Train Acc: 66.99%, Test Acc: 64.95%
Epoch 100/100, Train Acc: 67.06%, Test Acc: 65.30%
Best Test Accuracy with MAE: 65.97%

--- Training with RCE ---
Epoch 10/100, Train Acc: 37.31%, Test Acc: 46.90%
Epoch 20/100, Train Acc: 47.77%, Test Acc: 56.31%
Epoch 30/100, Train Acc: 60.25%, Test Acc: 73.10%
Epoch 40/100, Train Acc: 65.71%, Test Acc: 77.25%
Epoch 50/100, Train Acc: 70.23%, Test Acc: 79.07%
Epoch 60/100, Train Acc: 74.26%, Test Acc: 80.42%
Epoch 70/100, Train Acc: 77.29%, Test Acc: 81.08%
Epoch 80/100, Train Acc: 79.10%, Test Acc: 81.60%
Epoch 90/100, Train Acc: 79.63%, Test Acc: 81.40%
Epoch 100/100, Train Acc: 79.76%, Test Acc: 81.46%
Best Test Accuracy with RCE: 81.65%

--- Training with APL-NCE+MAE ---
Epoch 10/100, Train Acc: 60.22%, Test Acc: 71.39%
Epoch 20/100, Train Acc: 66.95%, Test Acc: 77.82%
Epoch 30/100, Train Acc: 71.32%, Test Acc: 79.05%
Epoch 40/100, Train Acc: 74.56%, Test Acc: 78.36%
Epoch 50/100, Train Acc: 77.44%, Test Acc: 77.08%
Epoch 60/100, Train Acc: 79.98%, Test Acc: 75.26%
Epoch 70/100, Train Acc: 82.21%, Test Acc: 77.50%
Epoch 80/100, Train Acc: 84.13%, Test Acc: 77.92%
Epoch 90/100, Train Acc: 85.30%, Test Acc: 76.98%
Epoch 100/100, Train Acc: 85.61%, Test Acc: 77.02%
Best Test Accuracy with APL-NCE+MAE: 79.66%

--- Training with APL-NCE+RCE ---
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Epoch 10/100, Train Acc: 37.76%, Test Acc: 43.98%
Epoch 20/100, Train Acc: 50.99%, Test Acc: 62.21%
Epoch 30/100, Train Acc: 58.78%, Test Acc: 71.37%
Epoch 40/100, Train Acc: 64.39%, Test Acc: 76.29%
Epoch 50/100, Train Acc: 68.99%, Test Acc: 77.25%
Epoch 60/100, Train Acc: 73.09%, Test Acc: 80.20%
Epoch 70/100, Train Acc: 76.58%, Test Acc: 80.70%
Epoch 80/100, Train Acc: 78.63%, Test Acc: 80.84%
Epoch 90/100, Train Acc: 79.28%, Test Acc: 80.92%
Epoch 100/100, Train Acc: 79.46%, Test Acc: 81.07%
Best Test Accuracy with APL-NCE+RCE: 81.13%

--- Training with APL-NFL+MAE ---
Epoch 10/100, Train Acc: 60.58%, Test Acc: 69.01%
Epoch 20/100, Train Acc: 67.08%, Test Acc: 77.47%
Epoch 30/100, Train Acc: 71.61%, Test Acc: 79.45%
Epoch 40/100, Train Acc: 74.93%, Test Acc: 79.69%
Epoch 50/100, Train Acc: 78.04%, Test Acc: 78.71%
Epoch 60/100, Train Acc: 80.49%, Test Acc: 77.73%
Epoch 70/100, Train Acc: 83.04%, Test Acc: 76.91%
Epoch 80/100, Train Acc: 84.93%, Test Acc: 76.75%
Epoch 90/100, Train Acc: 86.14%, Test Acc: 76.26%
Epoch 100/100, Train Acc: 86.50%, Test Acc: 76.06%
Best Test Accuracy with APL-NFL+MAE: 80.38%

--- Training with APL-NFL+RCE ---
Epoch 10/100, Train Acc: 46.50%, Test Acc: 55.99%
Epoch 20/100, Train Acc: 57.82%, Test Acc: 71.28%
Epoch 30/100, Train Acc: 63.41%, Test Acc: 77.32%
Epoch 40/100, Train Acc: 67.88%, Test Acc: 79.01%
Epoch 50/100, Train Acc: 71.89%, Test Acc: 80.23%
Epoch 60/100, Train Acc: 75.81%, Test Acc: 81.02%
Epoch 70/100, Train Acc: 78.55%, Test Acc: 81.42%
Epoch 80/100, Train Acc: 79.84%, Test Acc: 81.69%
Epoch 90/100, Train Acc: 80.48%, Test Acc: 81.56%
Epoch 100/100, Train Acc: 80.58%, Test Acc: 81.38%
Best Test Accuracy with APL-NFL+RCE: 81.89%

=== Training with symmetric noise rate η = 0.4 ===

--- Training with CE ---
Epoch 10/100, Train Acc: 36.59%, Test Acc: 68.22%
Epoch 20/100, Train Acc: 47.57%, Test Acc: 67.67%
Epoch 30/100, Train Acc: 55.06%, Test Acc: 61.09%
Epoch 40/100, Train Acc: 62.87%, Test Acc: 57.30%
Epoch 50/100, Train Acc: 70.73%, Test Acc: 52.62%
Epoch 60/100, Train Acc: 79.24%, Test Acc: 51.34%
Epoch 70/100, Train Acc: 87.28%, Test Acc: 50.05%
Epoch 80/100, Train Acc: 93.02%, Test Acc: 50.15%
Epoch 90/100, Train Acc: 95.48%, Test Acc: 49.69%
Epoch 100/100, Train Acc: 96.12%, Test Acc: 49.47%
Best Test Accuracy with CE: 71.82%

--- Training with FL ---
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Epoch 10/100, Train Acc: 38.93%, Test Acc: 68.03%
Epoch 20/100, Train Acc: 47.96%, Test Acc: 70.59%
Epoch 30/100, Train Acc: 55.57%, Test Acc: 60.77%
Epoch 40/100, Train Acc: 64.51%, Test Acc: 55.59%
Epoch 50/100, Train Acc: 74.02%, Test Acc: 53.29%
Epoch 60/100, Train Acc: 83.49%, Test Acc: 49.67%
Epoch 70/100, Train Acc: 91.72%, Test Acc: 49.58%
Epoch 80/100, Train Acc: 95.91%, Test Acc: 49.67%
Epoch 90/100, Train Acc: 97.30%, Test Acc: 49.34%
Epoch 100/100, Train Acc: 97.45%, Test Acc: 49.44%
Best Test Accuracy with FL: 72.31%

--- Training with NCE ---
Epoch 10/100, Train Acc: 29.70%, Test Acc: 49.27%
Epoch 20/100, Train Acc: 33.26%, Test Acc: 53.32%
Epoch 30/100, Train Acc: 34.80%, Test Acc: 56.73%
Epoch 40/100, Train Acc: 36.28%, Test Acc: 53.90%
Epoch 50/100, Train Acc: 37.28%, Test Acc: 45.75%
Epoch 60/100, Train Acc: 38.89%, Test Acc: 50.59%
Epoch 70/100, Train Acc: 40.99%, Test Acc: 45.38%
Epoch 80/100, Train Acc: 45.13%, Test Acc: 42.93%
Epoch 90/100, Train Acc: 48.42%, Test Acc: 42.46%
Epoch 100/100, Train Acc: 49.60%, Test Acc: 42.22%
Best Test Accuracy with NCE: 56.73%

--- Training with NFL ---
Epoch 10/100, Train Acc: 32.70%, Test Acc: 53.84%
Epoch 20/100, Train Acc: 37.15%, Test Acc: 59.85%
Epoch 30/100, Train Acc: 39.00%, Test Acc: 57.39%
Epoch 40/100, Train Acc: 40.53%, Test Acc: 56.51%
Epoch 50/100, Train Acc: 41.45%, Test Acc: 47.14%
Epoch 60/100, Train Acc: 43.60%, Test Acc: 37.76%
Epoch 70/100, Train Acc: 47.51%, Test Acc: 45.30%
Epoch 80/100, Train Acc: 52.63%, Test Acc: 44.84%
Epoch 90/100, Train Acc: 57.07%, Test Acc: 41.35%
Epoch 100/100, Train Acc: 58.09%, Test Acc: 41.03%
Best Test Accuracy with NFL: 60.73%

--- Training with MAE ---
Epoch 10/100, Train Acc: 34.44%, Test Acc: 52.27%
Epoch 20/100, Train Acc: 41.16%, Test Acc: 63.16%
Epoch 30/100, Train Acc: 44.59%, Test Acc: 65.05%
Epoch 40/100, Train Acc: 47.12%, Test Acc: 66.79%
Epoch 50/100, Train Acc: 49.58%, Test Acc: 65.42%
Epoch 60/100, Train Acc: 51.82%, Test Acc: 65.84%
Epoch 70/100, Train Acc: 53.91%, Test Acc: 65.77%
Epoch 80/100, Train Acc: 55.41%, Test Acc: 64.63%
Epoch 90/100, Train Acc: 56.22%, Test Acc: 63.66%
Epoch 100/100, Train Acc: 56.43%, Test Acc: 63.82%
Best Test Accuracy with MAE: 66.91%

--- Training with RCE ---
Epoch 10/100, Train Acc: 19.59%, Test Acc: 28.74%
Epoch 20/100, Train Acc: 21.58%, Test Acc: 30.39%
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Epoch 30/100, Train Acc: 24.68%, Test Acc: 37.01%
Epoch 40/100, Train Acc: 32.26%, Test Acc: 50.72%
Epoch 50/100, Train Acc: 40.18%, Test Acc: 63.20%
Epoch 60/100, Train Acc: 45.87%, Test Acc: 70.13%
Epoch 70/100, Train Acc: 50.93%, Test Acc: 72.81%
Epoch 80/100, Train Acc: 55.33%, Test Acc: 75.36%
Epoch 90/100, Train Acc: 58.46%, Test Acc: 75.50%
Epoch 100/100, Train Acc: 59.02%, Test Acc: 75.45%
Best Test Accuracy with RCE: 75.77%

--- Training with APL—NCE+MAE ---
Epoch 10/100, Train Acc: 43.47%, Test Acc: 68.02%
Epoch 20/100, Train Acc: 49.25%, Test Acc: 74.89%
Epoch 30/100, Train Acc: 53.11%, Test Acc: 75.50%
Epoch 40/100, Train Acc: 56.86%, Test Acc: 72.38%
Epoch 50/100, Train Acc: 60.27%, Test Acc: 71.21%
Epoch 60/100, Train Acc: 64.09%, Test Acc: 70.61%
Epoch 70/100, Train Acc: 68.63%, Test Acc: 65.69%
Epoch 80/100, Train Acc: 73.15%, Test Acc: 64.85%
Epoch 90/100, Train Acc: 75.92%, Test Acc: 63.00%
Epoch 100/100, Train Acc: 76.82%, Test Acc: 61.97%
Best Test Accuracy with APL—NCE+MAE: 76.15%

--- Training with APL—NCE+RCE ---
Epoch 10/100, Train Acc: 23.23%, Test Acc: 37.65%
Epoch 20/100, Train Acc: 31.22%, Test Acc: 49.82%
Epoch 30/100, Train Acc: 38.94%, Test Acc: 63.97%
Epoch 40/100, Train Acc: 44.32%, Test Acc: 66.41%
Epoch 50/100, Train Acc: 48.64%, Test Acc: 72.45%
Epoch 60/100, Train Acc: 53.08%, Test Acc: 74.42%
Epoch 70/100, Train Acc: 57.06%, Test Acc: 76.52%
Epoch 80/100, Train Acc: 60.31%, Test Acc: 76.60%
Epoch 90/100, Train Acc: 61.77%, Test Acc: 76.57%
Epoch 100/100, Train Acc: 62.19%, Test Acc: 76.32%
Best Test Accuracy with APL—NCE+RCE: 77.13%

--- Training with APL—NFL+MAE ---
Epoch 10/100, Train Acc: 44.84%, Test Acc: 70.58%
Epoch 20/100, Train Acc: 50.61%, Test Acc: 71.61%
Epoch 30/100, Train Acc: 54.50%, Test Acc: 69.77%
Epoch 40/100, Train Acc: 58.35%, Test Acc: 73.81%
Epoch 50/100, Train Acc: 62.34%, Test Acc: 72.69%
Epoch 60/100, Train Acc: 66.46%, Test Acc: 69.72%
Epoch 70/100, Train Acc: 71.23%, Test Acc: 65.46%
Epoch 80/100, Train Acc: 75.66%, Test Acc: 65.22%
Epoch 90/100, Train Acc: 78.55%, Test Acc: 62.41%
Epoch 100/100, Train Acc: 79.42%, Test Acc: 61.81%
Best Test Accuracy with APL—NFL+MAE: 76.59%

--- Training with APL—NFL+RCE ---
Epoch 10/100, Train Acc: 25.08%, Test Acc: 38.22%
Epoch 20/100, Train Acc: 35.57%, Test Acc: 58.71%
Epoch 30/100, Train Acc: 43.15%, Test Acc: 67.44%
Epoch 40/100, Train Acc: 47.53%, Test Acc: 70.18%
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Epoch 50/100, Train Acc: 51.43%, Test Acc: 74.67%
Epoch 60/100, Train Acc: 55.56%, Test Acc: 77.31%
Epoch 70/100, Train Acc: 59.36%, Test Acc: 77.85%
Epoch 80/100, Train Acc: 62.16%, Test Acc: 77.47%
Epoch 90/100, Train Acc: 63.26%, Test Acc: 77.30%
Epoch 100/100, Train Acc: 63.53%, Test Acc: 76.90%
Best Test Accuracy with APL-NFL+RCE: 78.15%

=== Training with symmetric noise rate η = 0.6 ===

--- Training with CE ---
Epoch 10/100, Train Acc: 20.09%, Test Acc: 52.90%
Epoch 20/100, Train Acc: 26.93%, Test Acc: 56.88%
Epoch 30/100, Train Acc: 34.65%, Test Acc: 52.41%
Epoch 40/100, Train Acc: 44.55%, Test Acc: 44.21%
Epoch 50/100, Train Acc: 54.38%, Test Acc: 38.41%
Epoch 60/100, Train Acc: 64.78%, Test Acc: 33.92%
Epoch 70/100, Train Acc: 74.98%, Test Acc: 33.40%
Epoch 80/100, Train Acc: 84.05%, Test Acc: 31.57%
Epoch 90/100, Train Acc: 88.75%, Test Acc: 31.58%
Epoch 100/100, Train Acc: 90.00%, Test Acc: 31.03%
Best Test Accuracy with CE: 59.93%

--- Training with FL ---
Epoch 10/100, Train Acc: 17.11%, Test Acc: 40.35%
Epoch 20/100, Train Acc: 24.05%, Test Acc: 60.45%
Epoch 30/100, Train Acc: 30.73%, Test Acc: 54.04%
Epoch 40/100, Train Acc: 39.35%, Test Acc: 47.03%
Epoch 50/100, Train Acc: 50.28%, Test Acc: 38.12%
Epoch 60/100, Train Acc: 62.05%, Test Acc: 34.42%
Epoch 70/100, Train Acc: 73.39%, Test Acc: 31.07%
Epoch 80/100, Train Acc: 83.68%, Test Acc: 30.17%
Epoch 90/100, Train Acc: 88.34%, Test Acc: 29.18%
Epoch 100/100, Train Acc: 89.15%, Test Acc: 29.00%
Best Test Accuracy with FL: 60.45%

--- Training with NCE ---
Epoch 10/100, Train Acc: 19.73%, Test Acc: 42.89%
Epoch 20/100, Train Acc: 21.02%, Test Acc: 44.47%
Epoch 30/100, Train Acc: 21.31%, Test Acc: 39.24%
Epoch 40/100, Train Acc: 21.54%, Test Acc: 37.01%
Epoch 50/100, Train Acc: 22.33%, Test Acc: 29.79%
Epoch 60/100, Train Acc: 25.34%, Test Acc: 33.21%
Epoch 70/100, Train Acc: 28.91%, Test Acc: 29.16%
Epoch 80/100, Train Acc: 32.05%, Test Acc: 31.36%
Epoch 90/100, Train Acc: 33.70%, Test Acc: 29.28%
Epoch 100/100, Train Acc: 34.05%, Test Acc: 30.24%
Best Test Accuracy with NCE: 44.59%

--- Training with NFL ---
Epoch 10/100, Train Acc: 21.56%, Test Acc: 50.44%
Epoch 20/100, Train Acc: 24.04%, Test Acc: 52.34%
Epoch 30/100, Train Acc: 25.15%, Test Acc: 41.71%
Epoch 40/100, Train Acc: 26.15%, Test Acc: 46.80%
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Epoch 50/100, Train Acc: 27.80%, Test Acc: 22.78%
Epoch 60/100, Train Acc: 31.65%, Test Acc: 33.68%
Epoch 70/100, Train Acc: 36.87%, Test Acc: 28.15%
Epoch 80/100, Train Acc: 43.16%, Test Acc: 28.37%
Epoch 90/100, Train Acc: 46.74%, Test Acc: 26.21%
Epoch 100/100, Train Acc: 48.06%, Test Acc: 26.73%
Best Test Accuracy with NFL: 53.17%

--- Training with MAE ---
Epoch 10/100, Train Acc: 22.70%, Test Acc: 47.01%
Epoch 20/100, Train Acc: 26.06%, Test Acc: 53.80%
Epoch 30/100, Train Acc: 28.30%, Test Acc: 55.81%
Epoch 40/100, Train Acc: 30.75%, Test Acc: 53.73%
Epoch 50/100, Train Acc: 33.96%, Test Acc: 53.57%
Epoch 60/100, Train Acc: 37.63%, Test Acc: 50.86%
Epoch 70/100, Train Acc: 41.70%, Test Acc: 50.29%
Epoch 80/100, Train Acc: 45.41%, Test Acc: 46.37%
Epoch 90/100, Train Acc: 47.37%, Test Acc: 46.38%
Epoch 100/100, Train Acc: 47.89%, Test Acc: 45.60%
Best Test Accuracy with MAE: 57.06%

--- Training with RCE ---
Epoch 10/100, Train Acc: 12.30%, Test Acc: 17.64%
Epoch 20/100, Train Acc: 15.07%, Test Acc: 26.56%
Epoch 30/100, Train Acc: 16.32%, Test Acc: 30.42%
Epoch 40/100, Train Acc: 17.48%, Test Acc: 32.51%
Epoch 50/100, Train Acc: 19.92%, Test Acc: 38.40%
Epoch 60/100, Train Acc: 23.19%, Test Acc: 47.84%
Epoch 70/100, Train Acc: 25.63%, Test Acc: 50.15%
Epoch 80/100, Train Acc: 28.36%, Test Acc: 51.63%
Epoch 90/100, Train Acc: 30.91%, Test Acc: 51.19%
Epoch 100/100, Train Acc: 31.96%, Test Acc: 51.30%
Best Test Accuracy with RCE: 52.00%

--- Training with APL-NCE+MAE ---
Epoch 10/100, Train Acc: 27.64%, Test Acc: 61.39%
Epoch 20/100, Train Acc: 31.89%, Test Acc: 67.96%
Epoch 30/100, Train Acc: 35.71%, Test Acc: 68.81%
Epoch 40/100, Train Acc: 40.17%, Test Acc: 56.22%
Epoch 50/100, Train Acc: 45.75%, Test Acc: 59.51%
Epoch 60/100, Train Acc: 52.90%, Test Acc: 52.45%
Epoch 70/100, Train Acc: 60.99%, Test Acc: 46.53%
Epoch 80/100, Train Acc: 69.03%, Test Acc: 43.67%
Epoch 90/100, Train Acc: 74.24%, Test Acc: 40.16%
Epoch 100/100, Train Acc: 75.49%, Test Acc: 39.66%
Best Test Accuracy with APL-NCE+MAE: 68.81%

--- Training with APL-NCE+RCE ---
Epoch 10/100, Train Acc: 14.55%, Test Acc: 27.23%
Epoch 20/100, Train Acc: 16.59%, Test Acc: 29.57%
Epoch 30/100, Train Acc: 18.82%, Test Acc: 37.73%
Epoch 40/100, Train Acc: 22.34%, Test Acc: 43.24%
Epoch 50/100, Train Acc: 25.49%, Test Acc: 53.82%
Epoch 60/100, Train Acc: 29.17%, Test Acc: 62.22%
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Epoch 70/100, Train Acc: 32.23%, Test Acc: 67.13%
Epoch 80/100, Train Acc: 35.55%, Test Acc: 68.79%
Epoch 90/100, Train Acc: 38.31%, Test Acc: 68.90%
Epoch 100/100, Train Acc: 39.44%, Test Acc: 68.65%
Best Test Accuracy with APL—NCE+RCE: 69.28%

--- Training with APL—NFL+MAE ---
Epoch 10/100, Train Acc: 27.75%, Test Acc: 62.87%
Epoch 20/100, Train Acc: 32.17%, Test Acc: 64.24%
Epoch 30/100, Train Acc: 35.87%, Test Acc: 68.39%
Epoch 40/100, Train Acc: 40.84%, Test Acc: 64.73%
Epoch 50/100, Train Acc: 47.29%, Test Acc: 54.38%
Epoch 60/100, Train Acc: 55.17%, Test Acc: 51.89%
Epoch 70/100, Train Acc: 64.02%, Test Acc: 43.73%
Epoch 80/100, Train Acc: 72.02%, Test Acc: 42.11%
Epoch 90/100, Train Acc: 76.90%, Test Acc: 39.89%
Epoch 100/100, Train Acc: 78.25%, Test Acc: 39.21%
Best Test Accuracy with APL—NFL+MAE: 69.99%

--- Training with APL—NFL+RCE ---
Epoch 10/100, Train Acc: 11.06%, Test Acc: 13.22%
Epoch 20/100, Train Acc: 11.94%, Test Acc: 17.79%
Epoch 30/100, Train Acc: 15.28%, Test Acc: 28.41%
Epoch 40/100, Train Acc: 20.69%, Test Acc: 43.84%
Epoch 50/100, Train Acc: 24.98%, Test Acc: 54.33%
Epoch 60/100, Train Acc: 28.39%, Test Acc: 59.68%
Epoch 70/100, Train Acc: 31.22%, Test Acc: 65.30%
Epoch 80/100, Train Acc: 34.86%, Test Acc: 66.84%
Epoch 90/100, Train Acc: 38.00%, Test Acc: 67.38%
Epoch 100/100, Train Acc: 39.32%, Test Acc: 67.42%
Best Test Accuracy with APL—NFL+RCE: 67.94%

=== Training with symmetric noise rate η = 0.8 ===

--- Training with CE ---
Epoch 10/100, Train Acc: 9.91%, Test Acc: 10.12%
Epoch 20/100, Train Acc: 11.27%, Test Acc: 22.71%
Epoch 30/100, Train Acc: 12.27%, Test Acc: 26.73%
Epoch 40/100, Train Acc: 14.71%, Test Acc: 26.07%
Epoch 50/100, Train Acc: 20.41%, Test Acc: 24.15%
Epoch 60/100, Train Acc: 28.77%, Test Acc: 20.23%
Epoch 70/100, Train Acc: 38.37%, Test Acc: 18.73%
Epoch 80/100, Train Acc: 50.03%, Test Acc: 16.56%
Epoch 90/100, Train Acc: 59.72%, Test Acc: 15.25%
Epoch 100/100, Train Acc: 62.80%, Test Acc: 14.87%
Best Test Accuracy with CE: 29.92%

--- Training with FL ---
Epoch 10/100, Train Acc: 10.03%, Test Acc: 10.00%
Epoch 20/100, Train Acc: 10.18%, Test Acc: 13.50%
Epoch 30/100, Train Acc: 11.42%, Test Acc: 24.98%
Epoch 40/100, Train Acc: 12.42%, Test Acc: 35.09%
Epoch 50/100, Train Acc: 13.57%, Test Acc: 34.59%
Epoch 60/100, Train Acc: 17.14%, Test Acc: 27.45%
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```
Epoch 70/100, Train Acc: 23.79%, Test Acc: 20.74%
Epoch 80/100, Train Acc: 33.72%, Test Acc: 15.98%
Epoch 90/100, Train Acc: 45.58%, Test Acc: 13.98%
Epoch 100/100, Train Acc: 50.29%, Test Acc: 13.35%
Best Test Accuracy with FL: 37.28%

--- Training with NCE ---
Epoch 10/100, Train Acc: 12.84%, Test Acc: 35.93%
Epoch 20/100, Train Acc: 13.56%, Test Acc: 36.64%
Epoch 30/100, Train Acc: 14.43%, Test Acc: 34.75%
Epoch 40/100, Train Acc: 16.12%, Test Acc: 13.94%
Epoch 50/100, Train Acc: 18.70%, Test Acc: 15.76%
Epoch 60/100, Train Acc: 21.14%, Test Acc: 12.23%
Epoch 70/100, Train Acc: 23.20%, Test Acc: 13.39%
Epoch 80/100, Train Acc: 24.84%, Test Acc: 14.02%
Epoch 90/100, Train Acc: 26.12%, Test Acc: 13.83%
Epoch 100/100, Train Acc: 26.15%, Test Acc: 13.73%
Best Test Accuracy with NCE: 36.97%

--- Training with NFL ---
Epoch 10/100, Train Acc: 13.27%, Test Acc: 35.84%
Epoch 20/100, Train Acc: 13.85%, Test Acc: 36.31%
Epoch 30/100, Train Acc: 15.58%, Test Acc: 26.88%
Epoch 40/100, Train Acc: 18.84%, Test Acc: 19.00%
Epoch 50/100, Train Acc: 23.90%, Test Acc: 15.73%
Epoch 60/100, Train Acc: 30.14%, Test Acc: 14.00%
Epoch 70/100, Train Acc: 36.19%, Test Acc: 13.92%
Epoch 80/100, Train Acc: 42.89%, Test Acc: 12.88%
Epoch 90/100, Train Acc: 46.15%, Test Acc: 12.96%
Epoch 100/100, Train Acc: 47.68%, Test Acc: 13.15%
Best Test Accuracy with NFL: 37.89%

--- Training with MAE ---
Epoch 10/100, Train Acc: 13.09%, Test Acc: 30.84%
Epoch 20/100, Train Acc: 14.39%, Test Acc: 30.66%
Epoch 30/100, Train Acc: 16.73%, Test Acc: 29.94%
Epoch 40/100, Train Acc: 20.64%, Test Acc: 27.56%
Epoch 50/100, Train Acc: 25.56%, Test Acc: 20.50%
Epoch 60/100, Train Acc: 30.51%, Test Acc: 19.81%
Epoch 70/100, Train Acc: 35.15%, Test Acc: 18.18%
Epoch 80/100, Train Acc: 37.08%, Test Acc: 17.37%
Epoch 90/100, Train Acc: 37.43%, Test Acc: 16.71%
Epoch 100/100, Train Acc: 37.47%, Test Acc: 17.04%
Best Test Accuracy with MAE: 32.23%

--- Training with RCE ---
Epoch 10/100, Train Acc: 10.06%, Test Acc: 10.00%
Epoch 20/100, Train Acc: 10.54%, Test Acc: 12.02%
Epoch 30/100, Train Acc: 10.59%, Test Acc: 15.51%
Epoch 40/100, Train Acc: 11.31%, Test Acc: 20.95%
Epoch 50/100, Train Acc: 11.70%, Test Acc: 22.81%
Epoch 60/100, Train Acc: 12.07%, Test Acc: 26.07%
Epoch 70/100, Train Acc: 12.44%, Test Acc: 27.80%
Epoch 80/100, Train Acc: 12.86%, Test Acc: 27.90%
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Epoch 90/100, Train Acc: 13.12%, Test Acc: 28.30%
Epoch 100/100, Train Acc: 13.30%, Test Acc: 28.14%
Best Test Accuracy with RCE: 28.47%

--- Training with APL-NCE+MAE ---
Epoch 10/100, Train Acc: 14.68%, Test Acc: 43.53%
Epoch 20/100, Train Acc: 16.88%, Test Acc: 47.94%
Epoch 30/100, Train Acc: 21.17%, Test Acc: 35.52%
Epoch 40/100, Train Acc: 29.44%, Test Acc: 26.14%
Epoch 50/100, Train Acc: 39.78%, Test Acc: 21.10%
Epoch 60/100, Train Acc: 50.94%, Test Acc: 18.52%
Epoch 70/100, Train Acc: 62.65%, Test Acc: 16.91%
Epoch 80/100, Train Acc: 72.79%, Test Acc: 17.09%
Epoch 90/100, Train Acc: 78.49%, Test Acc: 15.84%
Epoch 100/100, Train Acc: 79.78%, Test Acc: 15.62%
Best Test Accuracy with APL-NCE+MAE: 47.94%

--- Training with APL-NCE+RCE ---
Epoch 10/100, Train Acc: 10.10%, Test Acc: 10.00%
Epoch 20/100, Train Acc: 10.57%, Test Acc: 14.76%
Epoch 30/100, Train Acc: 10.81%, Test Acc: 15.03%
Epoch 40/100, Train Acc: 11.31%, Test Acc: 23.41%
Epoch 50/100, Train Acc: 11.89%, Test Acc: 25.73%
Epoch 60/100, Train Acc: 12.34%, Test Acc: 26.08%
Epoch 70/100, Train Acc: 13.04%, Test Acc: 27.91%
Epoch 80/100, Train Acc: 13.80%, Test Acc: 29.03%
Epoch 90/100, Train Acc: 14.29%, Test Acc: 29.16%
Epoch 100/100, Train Acc: 14.55%, Test Acc: 29.33%
Best Test Accuracy with APL-NCE+RCE: 29.41%

--- Training with APL-NFL+MAE ---
Epoch 10/100, Train Acc: 14.29%, Test Acc: 41.26%
Epoch 20/100, Train Acc: 17.10%, Test Acc: 45.05%
Epoch 30/100, Train Acc: 22.17%, Test Acc: 36.39%
Epoch 40/100, Train Acc: 32.11%, Test Acc: 28.07%
Epoch 50/100, Train Acc: 43.29%, Test Acc: 19.61%
Epoch 60/100, Train Acc: 55.75%, Test Acc: 18.27%
Epoch 70/100, Train Acc: 67.35%, Test Acc: 16.93%
Epoch 80/100, Train Acc: 77.14%, Test Acc: 15.78%
Epoch 90/100, Train Acc: 82.36%, Test Acc: 15.73%
Epoch 100/100, Train Acc: 83.72%, Test Acc: 15.24%
Best Test Accuracy with APL-NFL+MAE: 45.05%

--- Training with APL-NFL+RCE ---
Epoch 10/100, Train Acc: 10.75%, Test Acc: 13.40%
Epoch 20/100, Train Acc: 11.10%, Test Acc: 16.07%
Epoch 30/100, Train Acc: 11.11%, Test Acc: 10.85%
Epoch 40/100, Train Acc: 11.51%, Test Acc: 19.97%
Epoch 50/100, Train Acc: 11.90%, Test Acc: 22.46%
Epoch 60/100, Train Acc: 12.55%, Test Acc: 26.35%
Epoch 70/100, Train Acc: 12.97%, Test Acc: 28.90%
Epoch 80/100, Train Acc: 13.71%, Test Acc: 28.83%
Epoch 90/100, Train Acc: 14.45%, Test Acc: 29.63%
Epoch 100/100, Train Acc: 14.78%, Test Acc: 29.53%
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Best Test Accuracy with APL—NFL+RCE: 29.76%