Error Analysis: resnet50 (Merged) on FER2013
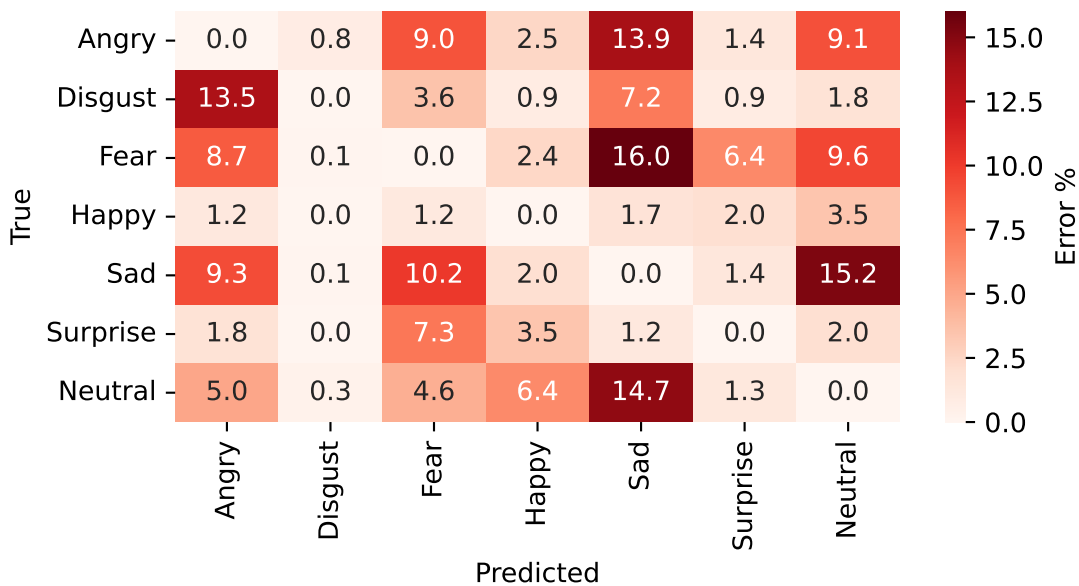
Per-Class Error Rates

Class	Error Rate
Angry	36.6%
Disgust	27.9%
Fear	43.3%
Happy	9.6%
Sad	38.2%
Surprise	15.9%
Neutral	32.4%

Mean: 29.1%
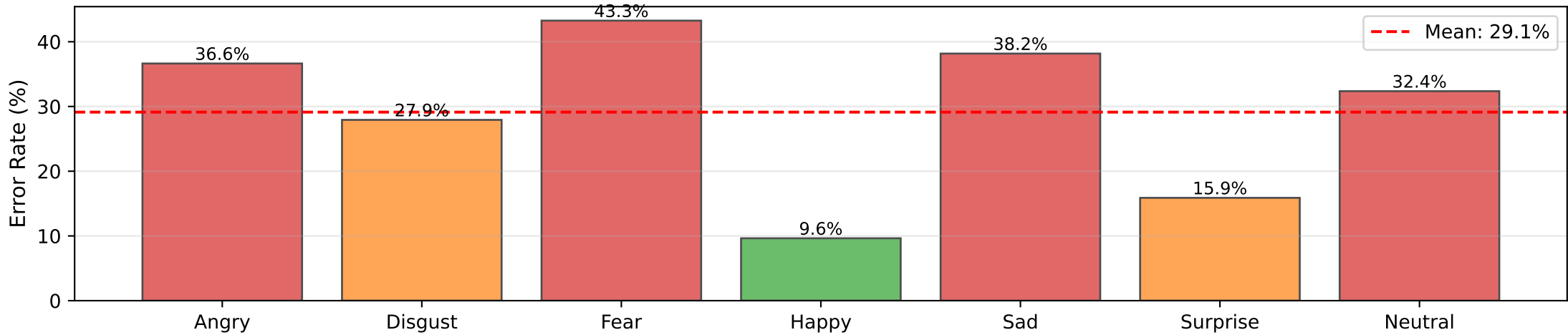
Top 10 Most Confused Class Pairs

Pair	Confusion Rate (% of True Class)
Fear→Sad	16.0%
Sad→Neutral	15.2%
Neutral→Sad	14.7%
Angry→Sad	13.9%
Disgust→Angry	13.5%
Sad→Fear	10.2%
Fear→Neutral	9.6%
Sad→Angry	9.3%
Angry→Neutral	9.1%
Angry→Fear	9.0%
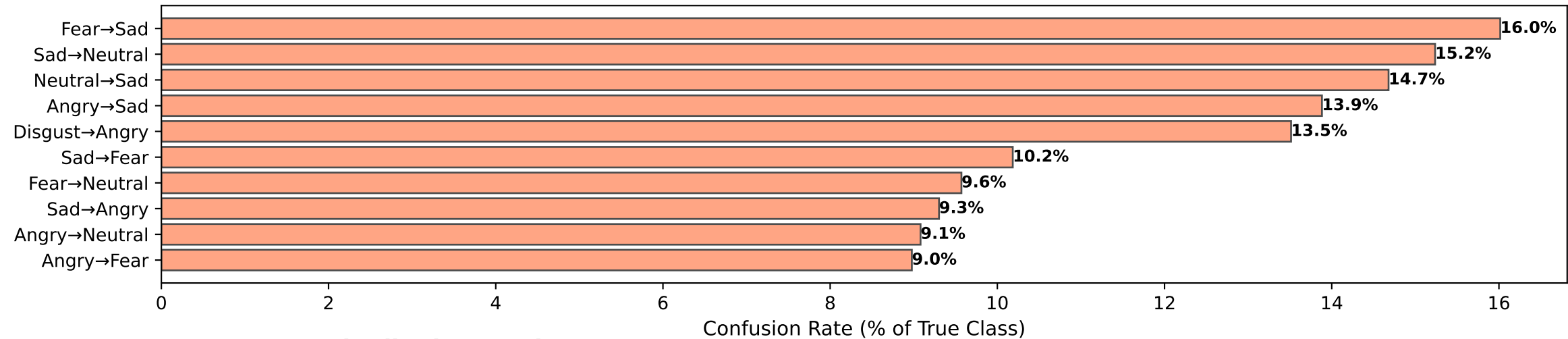
Error Distribution Matrix

True \ Predicted	Angry	Disgust	Fear	Happy	Sad	Surprise	Neutral
Angry	0.0	0.8	9.0	2.5	13.9	1.4	9.1
Disgust	13.5	0.0	3.6	0.9	7.2	0.9	1.8
Fear	8.7	0.1	0.0	2.4	16.0	6.4	9.6
Happy	1.2	0.0	1.2	0.0	1.7	2.0	3.5
Sad	9.3	0.1	10.2	2.0	0.0	1.4	15.2
Surprise	1.8	0.0	7.3	3.5	1.2	0.0	2.0
Neutral	5.0	0.3	4.6	6.4	14.7	1.3	0.0

```
ERROR ANALYSIS SUMMARY
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Overall Accuracy: 72.10%
Average Error Rate: 29.13%

Best Performing Class:
  • Happy: 90.36% accuracy

Worst Performing Class:
  • Fear: 56.74% accuracy

Most Critical Confusions:
  1. Fear → Sad: 16.0%
  2. Sad → Neutral: 15.2%
  3. Neutral → Sad: 14.7%
```