

| Task | Dataset | Accuracy Target | Model | Speedup for Prox [49] | | | Speedup for YoGi [64] | | |
|-------------------------|--------------------|--------------------|-----------------|-----------------------|------|---------|-----------------------|------|---------|
| | | | | Stats. | Sys. | Overall | Stats. | Sys. | Overall |
| Image Classification | OpenImage-Easy [3] | 74.9% | MobileNet [66] | 3.8× | 3.2× | 12.1× | 2.4× | 2.4× | 5.7× |
| | | | ShuffleNet [78] | 2.5× | 3.5× | 8.8× | 1.9× | 2.7× | 5.1× |
| | OpenImage [3] | 53.1% | MobileNet | 4.2× | 3.1× | 13.0× | 2.3× | 1.5× | 3.3× |
| | | | ShuffleNet | 4.8× | 2.9× | 14.1× | 1.8× | 3.2× | 5.8× |
| Language Modeling | Reddit [8] | 39 perplexity | Albert [48] | 1.3× | 6.4× | 8.4× | 1.5× | 4.9× | 7.3× |
| | StackOverflow [9] | 39 perplexity | Albert | 2.1× | 4.3× | 9.1× | 1.8× | 4.4× | 7.8× |
| Speech Recognition | Google Speech [72] | 62.2% | ResNet-34 [36] | 1.1× | 1.1× | 1.2× | 1.2× | 1.1× | 1.3× |

Table 1: Summary of improvements on time to accuracy. We tease apart the overall improvement with statistical and system ones, and take the highest accuracy that Prox can achieve as the target, which is moderate due to the high task complexity and lightweight models.