| **#** | **Dataset name** | **Loss** | **Layers** | **Batch size** | **Dropout (Embed / Hidden)** | **LR** | **Momentum** | **n\_sample / α** | **Epochs** | **Key notes** | **Sample results** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | YooChoose | cross-entropy | 128 | 64 | 0.0 / 0.0 | 0.1 | 0.0 | 256 / 0.5 | 1 | Quick sanity check | Loss ~5.28; Recall@5 ≈ 0.388; MRR@5 ≈ 0.237 |
| 2 | YooChoose | cross-entropy | 192 | 64 | 0.0 / 0.1 | 0.07 | 0.0 | 512 / 0.3 | 5 | Small model, longer training | Loss ↓ 6.49→5.25; Recall@10 ≈ 0.535; MRR@10 ≈ 0.278 |
| 3 | YooChoose | bpr-max | 200 | 64 | 0.2 / 0.1 | 0.05 | 0.4 | 512 / 0.4 | 5 | Ranking optimization (BPR-max) | Loss ↓ 0.459→0.398; Recall@5 ≈ 0.411; Recall@20 ≈ 0.623 |
| 4 | YooChoose | cross-entropy | 96 | 128 | 0.0 / 0.0 | 0.1 | 0.0 | 128 / 0.4 | 2 | Fast run on weaker machines | Loss ↓ 4.96→4.17; Recall@5 ≈ 0.389 |
| 5 | YooChoose | cross-entropy | 128 | 64 | 0.0 / 0.15 | 0.07 | 0.0 | 256 / 0.25 | 3 | Train\_valid only, multi cut-offs | Recall@5 ≈ 0.398; Recall@20 ≈ 0.622 |
| 6 | YooChoose | cross-entropy | 96 | 192 | 0.0 / 0.0 | 0.07–0.09 | 0.0 | 64 / 0.3 | 5 | Lower sampling, more epochs | Loss ↓ 4.75→3.55; Recall@5 ≈ 0.398; Recall@20 ≈ 0.620 |
| 7 | YooChoose | cross-entropy | 112 | 192 | 0.0 / 0.15 | 0.085 | 0.0 | 96 / 0.25 | 6 | Lower sampling + larger hidden | Loss ↓ 5.19→3.81; Recall@5 ≈ 0.404; Recall@20 ≈ 0.624 |
| 8 | RetailRocket | top1 | 100 | 32 | – | 0.1 | – | – | 3 | RetailRocket baseline (top1) | Very low recall (≈0.0001–0.0007) |
| 9 | RetailRocket | cross-entropy | 100 | 32 | – | 0.1 | – | – | 3 | RetailRocket cross-entropy | Recall@5 ≈ 0.231; Recall@20 ≈ 0.406 |
| 10 | RetailRocket | bpr-max | 100 | 32 | – | 0.1 | – | – | 3 | RetailRocket BPR-max | Recall@5 ≈ 0.253; Recall@20 ≈ 0.425 |
| 11 | RetailRocket | top1-max | 100 | 32 | – | 0.1 | – | – | 3 | RetailRocket top1-max | Recall@5 ≈ 0.051; Recall@20 ≈ 0.158 |
| 12 | RetailRocket | top1 | 100 | 32 | – | 0.1 | – | – | 9 | RetailRocket top1 (9 epochs) | Very low recall (≈0.0001–0.0027) |
| 13 | YooChoose | cross-entropy | 20 | 512 | – | 0.1 | – | 32 / – | 1 | Coverage metrics | Item cov ≈ 0.483; Catalog cov = 1.0 |
| 14 | YooChoose | cross-entropy | 20 | 512 | – | 0.1 | – | 32 / – | 1 | Diversity metric (ILD) | ILD ≈ 0.198 |