**优化器对比**

（lr=0.1 epoch=500 batch=32）

表1 loss图对比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sgd | Sgdm | Adagrad | Rmsprop | Adam |
| A screenshot of a cell phone  Description automatically generated | A picture containing screenshot, monitor, screen, room  Description automatically generated | A screenshot of a cell phone  Description automatically generated | A screenshot of a video game  Description automatically generated | A screenshot of a cell phone  Description automatically generated |

表2 ACC图对比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sgd | Sgdm | Adagrad | Rmsprop | Adam |
| A screenshot of a social media post  Description automatically generated | A screenshot of a social media post  Description automatically generated | A screenshot of a computer  Description automatically generated | A screenshot of a social media post  Description automatically generated | A screenshot of a social media post  Description automatically generated |

表3 训练耗时（total\_time）对比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sgd | Sgdm | Adagrad | Rmsprop | Adam |
| 7.580148220062256 | 8.25361156463623 | 8.022201299667358 | 8.510772705078125 | 9.21623158454895 |

**优化器对比**

（lr=0.01 epoch=100 batch=32）

表1 loss图对比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sgd | Sgdm | Adagrad | Rmsprop | Adam |
| A screenshot of a video game  Description automatically generated | A close up of a person  Description automatically generated | A screenshot of a cell phone  Description automatically generated | A picture containing screenshot, person  Description automatically generated | A screenshot of a cell phone  Description automatically generated |

表2 ACC图对比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sgd | Sgdm | Adagrad | Rmsprop | Adam |
| A screenshot of a social media post  Description automatically generated | A screenshot of a cell phone  Description automatically generated | A screenshot of a computer  Description automatically generated | A screen shot of a computer  Description automatically generated | A screen shot of a computer  Description automatically generated |

表3 训练耗时（total\_time）对比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sgd | Sgdm | Adagrad | Rmsprop | Adam |
| 1.565222978591919 | 1.5713753700256348 | 1.6729328632354736 | 1.7108049392700195 | 1.7714617252349854 |