python train.py --model\_dir=../models --save\_model\_name=flow\_prediction --data\_dir=../data --log\_dir=../logs --train\_epoch=2000 --batch\_size=144 --time\_step=12 --num\_layers=3 --hidden\_size=512 --output\_size=69 --cell=lstm --use\_residual=True --res\_weight=0.1 --learning\_rate=0.08 --use\_dropout=True --keep\_prob=0.9

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Layer | Node | Res | Drop | MAPE | MAP | RMSE | Train time |
| 1 | 512 | N | 0.9 | 0.069732 | 18.9298 | 27.6846 | 907.07 |
| 2 | 512 | 0.1 | 0.9 | 0.069781 | 18.9345 | 27.6877 | 1656.75 |
| 3 | 512 | 0.1 | 0.9 | 0.069751 | 18.9321 | 27.6869 | 2288.98 |
| 4 | 512 | 0.1 | 0.9 | 0.069550 | 18.9090 | 27.6568 | 2880.43 |
|  |  |  |  |  |  |  |  |
| 2 | 256 | 0.1 | 0.9 | 0.070494 | 19.1273 | 27.8990 | 1415.74 |
| 3 | 256 | 0.1 | 0.9 | 0.070160 | 19.0757 | 27.8524 | 1984.09 |
|  |  |  |  |  |  |  |  |
| 2 | 256 | 0.3 | N | 0.069175 | 18.9817 | 27.5419 | 1454.85 |
| 3 | 256 | 0.3 | N | 0.069534 | 19.1086 | 27.8212 | 1809.40 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Node | Layer | Res | Drop | MAPE | MAP | RMSE | Train time |
| 256 | 3 | 0.1 | 0.9 | 0.070160 | 19.0757 | 27.8524 | 1984.09 |
| 512 | 3 | 0.1 | 0.9 | 0.069751 | 18.9321 | 27.6869 | 2288.98 |
| 768 | 3 | 0.1 | 0.9 | 0.069306 | 18.9651 | 27.7087 | 3061.82 |
| 1024 | 3 | 0.1 | 0.9 | 0.069622 | 18.9019 | 27.6490 | 4291.2464 |
|  |  |  |  |  |  |  |  |
| 256 | 3 | 0.3 | N | 0.069534 | 19.1086 | 27.8212 | 1809.40 |
| 512 | 3 | 0.3 | N | 0.068942 | 18.9867 | 27.6647 | 1908.76 |
| 768 | 3 | 0.3 | N | 0.069481 | 19.0029 | 27.7535 | 3168.71 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Drop | Layer | Node | Res | MAPE | MAP | RMSE | Train time |
| 0.5 | 3 | 512 | 0.1 | 0.072354 | 19.7689 | 28.7634 | 1764.81 |
| 0.8 | 3 | 512 | 0.1 | 0.070176 | 19.0740 | 27.8644 | 1587.71 |
| 0.9 | 3 | 512 | 0.1 | 0.069751 | 18.9321 | 27.6869 | 2288.98 |
| N | 3 | 512 | 0.1 | 0.069525 | 19.0311 | 27.7842 | 2113.89 |
|  |  |  |  |  |  |  |  |
| 0.9 | 3 | 512 | 0.3 | 0.069333 | 18.8962 | 27.6460 | 2233.53 |
| N | 3 | 512 | 0.3 | 0.068942 | 18.9867 | 27.6647 | 1908.76 |
|  |  |  |  |  |  |  |  |
| 0.9 | 3 | 512 | 0.4 | 0.069762 | 18.9406 | 27.6872 | 2253.87 |
| N | 3 | 512 | 0.4 | 0.069573 | 19.1476 | 27.8930 | 2208.66 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Res | Layer | Node | Drop | MAPE | MAP | RMSE | Train time |
| 0.1 | 3 | 512 | 0.9 | 0.069751 | 18.9321 | 27.6869 | 2288.98 |
| 0.2 | 3 | 512 | 0.9 | 0.069567 | 18.9236 | 27.6848 | 2256.71 |
| 0.3 | 3 | 512 | 0.9 | 0.069333 | 18.8962 | 27.6460 | 2233.53 |
| 0.4 | 3 | 512 | 0.9 | 0.069762 | 18.9406 | 27.6872 | 2253.87 |
| N | 3 | 512 | 0.9 | 0.073513 | 20.3152 | 29.4306 | 1763.26 |
|  |  |  |  |  |  |  |  |
| 0.1 | 3 | 512 | N | 0.069525 | 19.0311 | 27.7842 | 2113.89 |
| 0.3 | 3 | 512 | N | 0.068942 | 18.9867 | 27.6647 | 1908.76 |
| 0.4 | 3 | 512 | N | 0.069573 | 19.1476 | 27.8930 | 2208.66 |
| 0.5 | 3 | 512 | N | 0.068972 | 18.9821 | 27.6192 | 2136.17 |
|  |  |  |  |  |  |  |  |
| 0.1 | 2 | 512 | N | 0.069258 | 19.0176 | 27.7658 | 1594.20 |
| 0.3 | 2 | 512 | N | 0.069079 | 18.9916 | 27.6876 | 1610.2606 |
|  |  |  |  |  |  |  |  |
| 0.1 | 2 | 768 | N | 0.069032 | 18.9386 | 27.6737 | 2091.63 |
| 0.3 | 2 | 768 | N |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Peephole | Layer | Node | Res | Drop | MAPE | MAP | RMSE | Train t |
| N |  |  |  |  |  |  |  |  |
| Y | 3 | 512 | 0.1 | 0.9 | 0.069833 | 18.9614 | 27.7042 | 1832.10 |
|  |  |  |  |  |  |  |  |  |