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=8 --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 | 0.069155 | 18.8673 | 27.4992 | 1365.2 |
| 2 | 512 | 0.1 | 0.9 | 0.069417 | 18.8788 | 27.4844 | 2468.09 |
| 3 | 512 | 0.1 | 0.9 | 0.068842 | 18.8734 | 27.5265 | 3369.58 |
| 4 | 512 | 0.1 | 0.9 | 0.069478 | 18.9231 | 27.5494 | 4495.32 |
|  |  |  |  |  |  |  |  |
| 2 | 512 | 0.3 | 0.9 |  |  |  |  |
| 3 | 512 | 0.3 | 0.9 | 0.069309 | 18.8779 | 27.4964 | 3433.92 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Node | Layer | Res | Drop | MAPE | MAP | RMSE | Train time |
| 128 | 3 | 0.1 | 0.9 | 0.071925 | 19.6537 | 28.4172 | 2950.84 |
| 256 | 3 | 0.1 | 0.9 | 0.069919 | 19.2065 | 27.8143 | 2974.2684 |
| 512 | 3 | 0.1 | 0.9 | 0.068842 | 18.8734 | 27.5265 | 3369.58 |
| 768 | 3 | 0.1 | 0.9 | 0.068786 | 18.7919 | 27.4231 | 4698.02 |
| 1024 | 3 | 0.1 | 0.9 | 0.068719 | 18.7948 | 27.4353 | 7237.21 |
|  |  |  |  |  |  |  |  |
| 768 | 2 | 0.1 | 0.9 | 0.06878 | 18.7945 | 27.4228 | 3494.82 |
| 1024 | 2 | 0.1 | 0.9 | 0.068846 | 18.7729 | 27.4182 | 4756.51 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Drop | Layer | Node | Res | MAPE | MAP | RMSE | Train time |
| 0.5 | 3 | 512 | 0.1 | 0.071429 | 19.5928 | 28.4506 | 3338.46 |
| 0.8 | 3 | 512 | 0.1 | 0.069298 | 18.9456 | 27.6055 | 3056.06 |
| 0.9 | 3 | 512 | 0.1 | 0.068842 | 18.8734 | 27.5265 | 3369.58 |
| N | 3 | 512 | 0.1 | 0.069677 | 19.3008 | 27.9549 | 3286.04 |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Res | Layer | Node | Drop | MAPE | MAP | RMSE | Train time |
| 0.05 | 3 | 512 | 0.9 | 0.069131 | 18.8871 | 27.5436 | 3285.02 |
| 0.1 | 3 | 512 | 0.9 | 0.068842 | 18.8734 | 27.5265 | 3369.58 |
| 0.2 | 3 | 512 | 0.9 | 0.069077 | 18.9834 | 27.5591 | 3433.35 |
| 0.3 | 3 | 512 | 0.9 | 0.069309 | 18.8779 | 27.4964 | 3433.92 |
| 1 | 3 | 512 | 0.9 | 0.069559 | 19.0957 | 27.7603 | 3306.82 |
| N | 3 | 512 | 0.9 | 0.077247 | 21.8285 | 31.5944 | 3265.19 |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Peephole | Layer | Node | Res | Drop | MAPE | MAP | RMSE | Train t |
| N | 3 | 512 | 0.1 | 0.9 | 0.068842 | 18.8734 | 27.5265 | 3369.58 |
| Y | 3 | 512 | 0.1 | 0.9 | 0.069285 | 18.9146 | 27.5620 | 4417.00 |