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1 RESULTS

1.1 Exp-1 (NH_3N baseline model)

1.1.1 Keys

- ☐ The benefit of data pre-processing by comparing validation and test loss.
- ☐ The selection of best model by comparing validation and test loss.
- ☐ Test data could be in poor quality.
- ☐ Show another test data results and compare the test and valid loss.

1.1.2 Fig and table

- Exp 1

Table 1.1: Traning parameters in Exp-1.

Pre-processing methods	Train date	Valid date	Test date	Algorithms
obs				CNN
sg5				DNN
sg7				RNN
sg9	12/13/2021—1/9/2022	1/10—l1/15/2022	1/16—1/22/2022	GRU
ew2				LSTM
ew3				
ew4				
or				

- result 1 After sorting the test loss from the lowest to the highest, we observed that the test

loss from lowest doesn't match with the valid loss from lowest.

Table 1.2: Test and valid loss of NH_3N in Exp-1.

	0116-0122	0110-0115	0116-012	2 0110-011	5
Model-dasetta	test_loss_mean	valid_loss_mean	Model-dasetta	test_loss_mean	valid_loss_mean
GRU-sg7	0.0383	1.2508	LSTM-ew3	0.0388	1.0796
GRU-sg5	0.0385	1.2644	LSTM-sg7	0.0388	1.1804
GRU-ew2	0.0389	1.1891	LSTM-sg5	0.0388	1.2346
GRU-ew4	0.0391	1.2390	LSTM-ew2	0.0392	1.0969
GRU-ew3	0.0392	1.2199	LSTM-ew4	0.0395	1.1219
GRU-sg9	0.0396	1.3097	LSTM-or	0.0398	1.2612
GRU-or	0.0405	1.3993	LSTM-obs	0.0405	1.2366
GRU-obs	0.0414	1.3638	LSTM-sg9	0.0410	1.3076

Table 1.3: Valid and test loss from 1/16 to 1/22.

Model-dataset	Validation Loss	Model-dataset	Test loss
LSTM-ew3	1.0796	**GRU-sg7**	0.0383
LSTM-ew2	1.0969	GRU-sg5	0.0385
LSTM-ew4	1.1219	**LSTM-ew3**	0.0388
LSTM-sg7	1.1804	**LSTM-sg7**	0.0388
GRU-ew2	1.1891	**LSTM-sg5**	0.0388
GRU-ew3	1.2199	**GRU-ew2**	0.0389
LSTM-sg5	1.2346	**GRU-ew4**	0.0391

Model-dataset	Validation Loss	Model-dataset	Test loss
LSTM-obs	1.2366	**LSTM-ew2**	0.0392
GRU-ew4	1.239	**GRU-ew3**	0.0392
GRU-sg7	1.2508	**LSTM-ew4**	0.0395

Table 1.4: Valid and test loss from 1/16 to 1/22.

Model-dataset	Validation Loss	Model-dataset	Test loss
LSTM-ew3	1.0796	**LSTM-ew3**	0.0158
LSTM-ew2	1.0969	**LSTM-ew2**	0.0161
LSTM-ew4	1.1219	**LSTM-ew4**	0.0163
LSTM-sg7	1.1804	**LSTM-sg5**	0.0166
GRU-ew2	1.1891	**GRU-ew3**	0.0167
GRU-ew3	1.2199	**GRU-ew4**	0.0169
LSTM-sg5	1.2346	**GRU-ew2**	0.0170
LSTM-obs	1.2366	GRU-sg9	0.0174
GRU-ew4	1.239	**LSTM-obs**	0.0175
GRU-sg7	1.2508	LSTM-or	0.0177

Table 1.5: Schematic for restriction digestion with a single restriction enzyme. Some really long text that shows how the caption is formatted when it takes multiple lines.

Reagent	Amount
Appropriate Buffer (10x)	1x
DNA	50-500ng
Restriction Enzyme	$1U$
Water	-

1.2 Exp-2

1.3 Exp-5

1.4 Exp-6

2 Result

2.1 sdfas

Table 2.1: Validation and test loss comparison from 1/16 to 1/22.

Model-dataset	Validation Loss
LSTM-ew3	1.0796
LSTM-ew2	1.0969

Model-dataset	Validation Loss
LSTM-ew4	1.1219

2.2 asdf

Table 2.2: Validation and test loss comparison from 1/16 to 1/22.

Model-dataset	Validation Loss	Model-dataset	Test loss
LSTM-ew3	1.0796	GRU-sg7	0.0383
LSTM-ew2	1.0969	GRU-sg5	0.0385
LSTM-ew4	1.1219	**LSTM-ew3**	0.0388

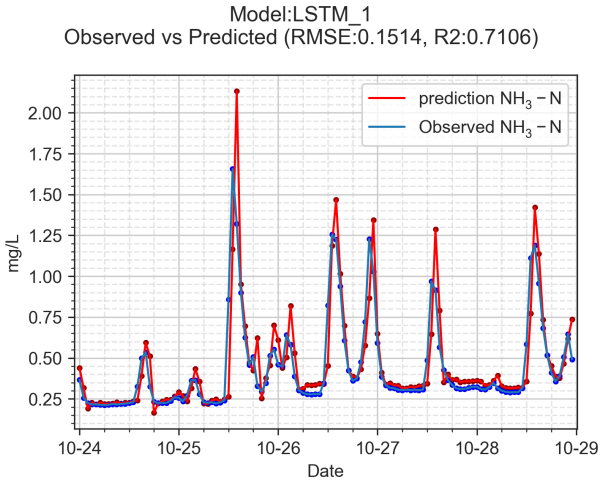

Figure 2.1: test

Thanks, it works. But I have another problem now. My images are a little large, and when put in the same row they cannot fit into one slide. Is it possible to control the size of the image? Thanks,

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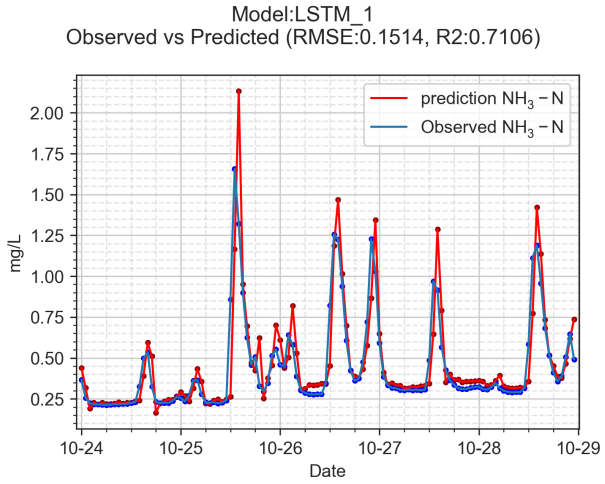

Figure 2.2: tesst

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