The algorithm consists of three parts: Original\_Data, Data\_Processing, ncRFP\_Model. Among them, Original\_Data stores 10-fold cross-validation experimental data, Data\_Processing is used to transform the original data into matrixes that can be used for deep learning, and ncRFP\_Model is used to predict ncRNAs family. The algorithm environment includes: h5py 2.9.0, keras 2.2.4, python3.6, numpy 1.17.2 and pandas 0.24.2.

1. Original\_Data: It contains 10-fold cross-validation experimental training sets and testing sets. When using this data, you should use the corresponding train and test set. Such as Train\_0 and Test\_0.
2. Data\_Processing: In this part, we transform the ncRNAs sequences into matrixes. The detail transform rules can be found in the paper of “ncRFP”. In this section, reader first places the original data in the “Ten\_ Train\_Test folder”. The final data generated by running the “processing.py” file is stored in the “Ten\_Fold\_Data\_h5 folder”.
3. ncRFP\_Model: This part is ncRFP algorithm model part. Readers can put the data generated by Data\_Processing in the folder of "Train\_Data". “Model.py” is used to train and record the model. “Load\_Model.py” is used to load the trained model and predict the family of test sets.