**数据集：**

轴承故障数据集（美国凯斯西储大学电气工程实验室提供的滚动轴承振动信号数据）

<http://csegroups.case.edu/bearingdatacenter/pages/welcome-case-western-reserve-university-bearing-data-center-website>

或者<http://data-acoustics.com/measurements/bearing-faults/bearing-5/>

**主要复现论文：**

1. Yi Q , Xin W , Jingqiang Z . The optimized deep belief networks with improved logistic Sigmoid units and their application in fault diagnosis for planetary gearboxes of wind turbines[J]. IEEE Transactions on Industrial Electronics, 2018:1-1.

**数据预处理方法：**

可选用小波包分解或者经验模态分解,若有更好的方法也可选用实现

小波包分解：

1. 路永乐, 潘英俊, 任春华, et al. 基于小波包-神经网络的MEMS加速度计零漂补偿[J]. 压电与声光, 2015, 37(1).
2. Detection of weak transient signals based on wavelet packet transform and manifold learning for rolling element bearing fault diagnosis

经验模态分解：

1. Lei Y , Lin J , He Z , et al. A review on empirical mode decomposition in fault diagnosis of rotating machinery[J]. MECHANICAL SYSTEMS AND SIGNAL PROCESSING, 2013, 35(1-2):108-126.
2. An improved Hilbert–Huang transform and its application in vibration signal analysis

参考文献

1. A. Boudiaf, A. Moussaoui, A. Dahane, and I. Atoui, “A Comparative Study of Various Methods of Bearing Faults Diagnosis Using the Case Western Reserve University Data,” J Fail. Anal. and Preven., vol. 16, no. 2, pp. 271–284, Apr. 2016.