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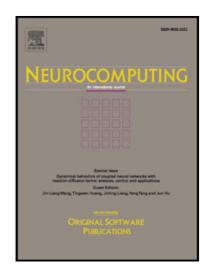
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Unsupervised fault diagnosis of rolling bearings using a deep neural network based on generative adversarial networks

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Highlights

- 1. CatGAN and AAE are introduced in unsupervised fault diagnosis of rolling bearings for their great ability of unsupervised clustering and mapping respectively.
- 2. By adding a classifier on the latent layer of AAE, we propose a new model named CatAAE for unsupervised clustering and exhibit the better performance compared with other methods.
- 3. Mixed time-frequency features are employed in the method to get a better robustness under different environments.
- 4. Considering about the expenses of labeling data, the proposed unsupervised method is more practical for application.

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