Ten Simple Rules for Deep Learning in Biology

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Authors

- **Benjamin D. Lee**

  ⓘD [0000-0002-7133-8397](#) · ⓞ [Benjamin-Lee](#)

  School of Engineering and Applied Sciences, Harvard University; Department of Genetics, Harvard Medical School; Lab41, In-Q-Tel

Abstract

Introduction

Rule 1: Concepts that apply to machine learning also apply to deep learning

Rule 2: Understand the complexities of training deep neural networks

Rule 3: Know your data and your question

Rule 4: Choose an appropriate neural network architecture and data representation

Rule 5: Tune your hyperparameters extensively and systematically

Rule 6: Address deep neural networks' increased tendency to overfit the dataset

Rule 7: Use traditional methods to establish performance baselines

Rule 8: Do not necessarily consider a DL model as a black box

Rule 9: Interpret predictions in the correct manner

Rule 10: Don't share models trained on sensitive data.

Conclusion

References