# Article information:

DNNGP, a deep neural network-based method for genomic prediction using multi-omics data in plants - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S167420522200404X>

# Article summary:

1. DNNGP is a deep learning method for genomic prediction in plants that can integrate multi-omics data and capture complex non-additive effects.

2. DNNGP outperforms traditional linear regression models and other widely used genomic selection methods, such as GBLUP, LightGBM, SVR, DeepGS, and DLGWAS.

3. DNNGP has several advantages, including the ability to handle small datasets, fast computation time, easy hyperparameter tuning, and robust performance with diverse datasets.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

作为一篇科学论文，该文章提供了一种新的基于深度神经网络的方法来进行植物基因组预测。然而，在阅读文章时，我们注意到以下几个问题：

1. 偏见来源：文章没有提及其他可能存在的方法或技术，也没有探讨这些方法与作者所提出的方法之间的优缺点比较。这可能导致读者对该方法的实际效果和可行性产生怀疑。

2. 片面报道：文章只介绍了作者所使用的数据集，并未考虑其他可能存在的数据集或样本。这可能会影响该方法在不同数据集上的适用性和效果。

3. 无根据主张：文章声称作者所提出的方法比传统线性模型更好，但并未提供足够证据来支持这一主张。此外，文章还声称该方法可以应用于各种组学数据来预测表型，但并未说明如何处理不同类型数据之间的差异和异质性。

4. 缺失考虑点：文章没有考虑到潜在风险和限制因素，例如样本大小、样本选择偏差、基因组覆盖率等。这些因素可能会影响该方法在实际应用中的效果和可靠性。

5. 偏袒宣传内容：文章过分强调了作者所提出方法的优势和创新性，并未充分探讨其局限性和不足之处。此外，文章还将该方法与其他现有技术进行比较，并声称其优于其他技术，但并未提供足够证据来支持这一主张。

总之，尽管该论文提供了一个新颖且有前景的基于深度神经网络的植物基因组预测方法，但其存在偏见、片面报道、无根据主张、缺失考虑点等问题需要进一步审查和探讨。

# Topics for further research:

* Comparison with other methods/techniques
* Consideration of other datasets/samples
* Evidence to support claims
* Potential risks and limitations
* Balanced discussion of advantages and disadvantages
* Comparison with existing technologies with sufficient evidence

# Report location:

<https://www.fullpicture.app/item/710e0c98a70c1bb9002edc217a1b9573>