# Article information:

Boosting operational DNN testing efficiency through conditioning | Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering
<https://dl.acm.org/doi/abs/10.1145/3338906.3338930>

# Article summary:

1. DNN models are increasingly used in software systems, making efficient operational testing of these models crucial for ensuring their performance in field conditions.

2. The challenge of DNN testing is producing precise results with limited labeling data collected in the field.

3. The proposed method for efficient DNN testing involves conditioning on the representation learned by the model and leveraging cross entropy minimization to sample from the high dimensional distribution of operational data. This approach requires only about half the labeled inputs compared to simple random sampling to achieve the same level of precision.

# Article rating:

Appears strongly imbalanced: The article is written in a biased or one-sided way, and the information it provides is not trustworthy enough to be considered a reliable source. You should consult other sources to find reliable information on the presented issues.

# Article analysis:

该文章提出了一种基于条件概率分布的深度神经网络（DNN）测试方法，旨在提高操作性DNN测试的效率。然而，该文章存在以下几个问题：

1. 偏见来源：该文章没有探讨可能存在的风险和负面影响。例如，如果使用不当或者数据集不足，则可能会导致模型的误差增加，从而影响其实际应用效果。

2. 片面报道：该文章只关注了如何提高DNN测试的效率，但并未考虑其他因素对测试结果的影响。例如，数据集的选择、标签质量、模型结构等都可能会对测试结果产生重要影响。

3. 缺失考虑点：该文章没有考虑到实际应用场景中可能存在的多样性和复杂性。例如，在某些情况下，简单随机抽样可能并不能满足需求，需要更加复杂和精细的采样策略。

4. 主张缺失证据：该文章提出了一种新方法来提高DNN测试效率，但并未给出充分证据来支持其有效性和可靠性。例如，在实验中是否考虑了不同数据集、模型结构、标签质量等因素对结果的影响？

5. 未探索反驳：该文章没有探讨可能存在的反驳观点或者其他方法。例如，是否有其他更加有效和可靠的方法来提高DNN测试效率？

综上所述，该文章存在一些偏见、片面报道、缺失考虑点和主张缺失证据等问题。因此，在阅读该文章时需要保持批判性思维，并结合实际情况进行评估和判断。

# Topics for further research:

* Potential risks and negative impacts
* Other factors affecting testing results
* Diversity and complexity in real-world scenarios
* Evidence supporting the effectiveness and reliability of the proposed method
* Refuting viewpoints or alternative methods
* Critical thinking and evaluation

# Report location:

<https://www.fullpicture.app/item/3a6d9001f432ed598f106941efc0997d>