# Article information:

Graph neural networks for materials science and chemistry | Communications Materials
<https://www.nature.com/articles/s43246-022-00315-6>

# Article summary:

1. Graph neural networks are being used in materials science and chemistry to enable machine-learning for drug discovery, virtual screening of molecular databases, inverse design of inorganic solid materials, and more.

2. Examples of graph neural networks include Orbital Graph Convolutional Neural Networks (OGCNs), Molecular Transformer, Convolutional Networks on Graphs (CNGs), PhysNet, SchNet, and Crystal Graph Attention Networks (CGANs).

3. These graph neural networks can be used to predict material properties, synthesize molecules, optimize chemical reactions, and analyze scanning transmission electron microscopy data.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article provides a comprehensive overview of the use of graph neural networks in materials science and chemistry. The article is well-researched and provides a detailed description of the various applications of graph neural networks in these fields. It also provides examples of different types of graph neural networks that are being used for these purposes.

The article is reliable as it cites relevant research papers to support its claims. Furthermore, the authors provide an unbiased view on the potential applications of graph neural networks in materials science and chemistry. They do not make any unsupported claims or present one-sided arguments; instead they provide a balanced view on the potential benefits as well as risks associated with using these technologies.

The only potential issue with the article is that it does not explore counterarguments or alternative views on the use of graph neural networks in materials science and chemistry. However, this does not detract from its overall reliability as it provides an accurate overview of the current state-of-the-art technologies being used in these fields.

# Topics for further research:

* Graph neural networks in materials science
* Graph neural networks in chemistry
* Advantages of graph neural networks
* Disadvantages of graph neural networks
* Applications of graph neural networks
* Limitations of graph neural networks

# Report location:

<https://www.fullpicture.app/item/78e4e48d8e9b938bf6dd18bfb969a541>