

Challenges

High Costs and Time-Consuming Workloads:

The drug discovery process is costly and time-consuming, taking 12 to 18 years and costing an average of \$2.6 billion.

Low Success Rate:

Only 10% of potential compounds progress to clinical trials, indicating a low success rate.

Complex Protocols:

The process involves intricate and complex protocols, making it challenging to identify promising drug candidates efficiently.

Scientific Information Research:

Utilize advanced algorithms like Large Language Models (LLM) and Natural Language Processing (NLP) to streamline data analysis, reveal insights, and build knowledge graphs.



Prediction of Molecular Phenotype:

Leverage Generative AI to predict disease-related changes in gene and protein expression, facilitating informed decisions in drug development and precision medicine.



Solutions



In Silico Drug Design:

Use AI to expedite the discovery of novel compounds, optimize lead identification, and predict clinical trial outcomes, reducing costs and increasing success rates.



Molecule Generation:

Employ recurrent neural networks (RNNs) and generative adversarial networks (GANs) to generate novel molecular structures, offering new avenues for identifying potential drug candidates.

Business Impact

Drug Design Optimization:

Identify modifications that enhance drug effectiveness, safety, and precision, streamlining the design process for greater efficiency.



Faster Time to Market:

Predict biological activities for generated structures, reducing the need for extensive experimental testing and accelerating the drug development timeline.



Accelerated Research and Insights:

Identify modifications that enhance drug effectiveness, safety, and precision, streamlining the design process for greater efficiency.

