

## **Artificial Intelligence**

Dr. Akila Katuwawala

*Scientist  
Computational Biology  
San Francisco  
United State of America*



Artificial intelligence, a widely used buzz word around contemporary science and technological circles is truly a collection specialized set of computer algorithm which are trained to mimic a specific type of a human behavior. The most prevalent used type of algorithms in this category is referred to as machine learning algorithms where they can predict given properties or values from previously seen data. Health and clinical sciences are at the forefront of machine learning application domains. The most recent groundbreaking one such innovation is AlphaFold2 algorithm developed by big tech backed deep mind team. AlphaFold2 has provided a near native solution to the problem that has identified as the 50-year-old grand challenge of the biology. Natural language processing is a key subset of machine learning algorithms that are designed the understand the properties of human languages that has gained immense traction with the awakening social media platforms. There has been number of attempts to apply the concepts of natural language processing to the language of the life which are biological sequences like DNA and amino acids. Generating previously unforeseen proteins for therapeutics and identifying the conserved protein targets within COVID-19 variants are couple of such applications. At the same time there has been numerous applications of machine learning in predicting protein-protein interactions, personalized medicine, and drug development. There exist several very specialized research areas that are ideal use cases for machine learning applications. Intrinsically disordered proteins (IDPs) are one such highly specialized sub domain of proteins. IDPs are an exception to the protein structure function paradigm. IDPs perform number of important biochemical functions within living systems even though they do not have well defined 3D structure under normal physiological conditions. QUARTER plus is a machine learning based platform that is designed to provide quality assessments and improved meta-predictions for sequence based IDP predictions.