



cogitativo

New Dawn for Healthcare: Machine Learning and Medical Innovation

A New Dawn for Healthcare

Suddenly, it looks like a golden age for healthcare. The rapid use of generative machine learning (ML) solutions, foundation models, and vast datasets combined with medical innovation provides a great opportunity for world-changing health and medical innovation. For example, using artificial intelligence (AI) and an ML system, providers now diagnose and treat cases of sepsis earlier than traditional methods. This AI-enabled capability lowered sepsis mortality by nearly 20%.

The development of mRNA vaccines has opened an era for vaccinology. At the same time, it is hard to see the silver lining for the cloud, particularly during the last several years. Nevertheless, at the center of the COVID experience sits the astonishing biomedical and healthcare miracle: identification of the most clinically vulnerable individuals and coronavirus vaccines. These solutions were developed within months compared to previous approaches would have swallowed decades to develop.



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Large Challenges Loom: Potential misuse of unvalidated ML solutions

While ML has great promise to accelerate insights and transform healthcare delivery, these solutions must ensure the protection of patients while providing algorithmic transparency. AI is not infallible,” says Dr. Heinz-Uwe Dettling. “There is a famous example in which an AI was asked to distinguish between photographs of wolves and huskies. The AI made the right judgment the majority of times, but with some notable exceptions. When the data scientists looked more deeply at how the AI had reached its decisions, they found that it wasn’t analyzing the physical attributes of each animal. Instead, it was basing its decision on whether there was snow in the background of the picture. It’s easy to understand how flawed this approach is and how AI can select the wrong criteria and develop the wrong rules when making a decision.”

For example, it has been reported that “data scientists” with no healthcare domain experience have built and deployed large language models that offer online psychotherapy.

Validated Solutions: Combining Technical Capability and Healthcare Wisdom

We must leverage advanced ML and deep-domain healthcare operating experience to address these cracks in our healthcare system. Utilizing one industry’s knowledge without the other will only provide half of a solution. Additionally, innovators should use novel biomarker data (e.g., remote patient monitoring, electronic medical record features, patient-level social determinants of health features, and patient self-generated data) to predict future health conditions.

This new approach to health information can evolve patient care. A holistic view of patient health and disease prediction enables detailed, high-fidelity healthcare services. For example, providers can use remote patient monitoring to provide hospital and specialized care in a patient’s home. Virtual monitoring can provide a 24/7 view of a patient’s health status. Now, providers can operate at the top of their license. Most importantly, we now understand a patient’s clinical risk more deeply. These insights allow organized systems of care to align needed support with the most appropriate clinical and support services.

Cogitativo: About Us

Cogitativo is a market leader in ML-enabled health solutions. Based on hundreds of successful client engagements, we have developed a series of point-of-view papers that address the significant opportunities we face, such as:



Predicting Chronic Disease Progression



Value and Provider Networks



Novel Biomarkers and Biohealth Intelligence



Advancing Acute and Chronic Care in Non-Inpatient Settings

We will refine and expand the scope of our position papers as we develop new insights and capabilities. Cogitativo empowers healthcare organizations to deploy AI solutions that foster collaborative thinking to drive delivery and operational innovation further. By leveraging ethical methods, we help our clients grow their value organically and nurture a consumer-first mindset.

“Making the unseen, seen”