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Editorial

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Why "ML in Health Science"

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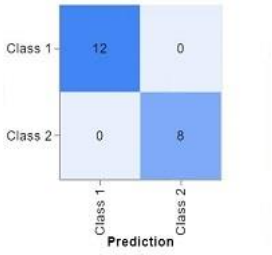
"…whatever can happen of all things have already happened, been done…"
Friedrich Nietzsche "Also sprach Zarathustra": „Vom Gesicht und Rätsel"

Artificial Intelligence (AI) is at an early stage of its own evolution. It is controlled by human beings. It is fascinating to see how this technology can predict the future. It makes our life easier. It reduces the time needed to solve various statistical, mathematical, linguistic, and recently, healthcare problems. However, what does AI really mean for humanity?

This ancient symbol of **"conducive to wellbeing"**[1] was transformed 80 years ago into a symbol of human extinction. Enormous effort and millions of human lives were sacrificed to stop the advancement of this once revered emblem.

Could AI have the same historical evolution as the ancient symbol above? Let's look at the core of Python and machine learning. Each predictive model is based on simple regression analysis with a classic confusion matrix or 2x2 table: true positive, true negative, false positive, false negative:



The extremely rational logic, or the **"Zen of Python"**, is the code that drives this technology[2]. It possesses enormous memory power and makes decisions based on statistical models and big data. However, the abstract human way of thinking and individual approach have no place here, because regression requires data, and data signifies **"no individual"**:

The IT developers lack experience with healthcare standards and are unfamiliar with the natural life processes from birth to death.

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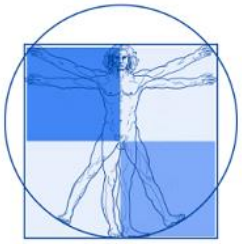
They do not comprehend the true essence of life. Healthcare professionals with clinical experience have a critical view of these natural processes. However, they often overestimate the capabilities of AI technologies, perhaps due to a lack of understanding that ML is essentially multi-layered statistical analysis.

As long as machines are controlled by humans, and humans maintain a critical perspective on what machines are, we see a collaboration between humans and machines. However, the current trend is towards controlled by AI machine-to-machine communication, initially described in 1968 by the Greek-American inventor and businessman Theodore Paraskevakos[3] as the simple Internet of Things (IoT). This trend can represent a dominance of the “Zen of Python” over humanity.

Nowadays, people use AI to write daily content such as birthday congratulations or reminders, and often receive responses generated by another AI. A particularly concerning scenario, which is becoming a reality, involves the use of ML algorithms in healthcare to predict outcomes. This data is then used by GPT systems to make final decisions about a patient's diagnosis and treatment.

The mission of the “ML in Health Science” initiative is to maintain a balance between humans and AI, preventing the transformation of the confusion matrix into the ancient symbol that nearly cost humanity its future. We aim to enhance research in human-centric ML and AI by applying the critical insights of a community that possesses both clinical and ML experience:



Enjoy reading our publications. We welcome your feedback and invite you to become part of a community dedicated to promoting human wellbeing.

Conflict of Interest: YR states that no conflict of interest exists.

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