

Digital Twin Technology in Healthcare

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Imagine a future where personalized healthcare will provide every individual with the right treatment at the right time. Advances in precision medicine have already led to powerful new discoveries and treatments that are tailored to specific characteristics of the patient, such as genetics, environment and lifestyle. What if you could predict your reaction to an intervention before ever going under the knife or ingesting a medication? That is the kind of precision medicine that digital twin artificial intelligence is designed to offer.

For example, a digital twin of a heart is a personalized replica of a patient's heart that is mechanically and statistically modeled so that it shares indistinguishable dimensions, muscle contractions, electrical signal activation and pressure dynamics with its genuine counterpart. Physicians can use the digital twin of a heart to test various therapies before providing them to the patient and prescribe the best intervention to the patient based on those modeled outcomes.

Digital twin technology in healthcare aims to improve pre-operative planning, reduce medical risks, and generate more accurate therapy for patients. Digital twin technology can also be used in hospitals to simulate work flow processes to identify inefficiencies and make improvements such as reducing patient wait time and developing strategies for efficient use of diagnostic testing equipment.

Digital twin technology will be just one of the topics explored at White and Williams' MEDx Talks 2019, at World Café Live on April 30th in Philadelphia, PA. Dr. Dorin Comaniciu, Vice President Artificial Intelligence at Siemens Healthineers – and his Digital Twin – will present on the benefits of digitalizing healthcare with new solutions in artificial intelligence. Learn more about this and other presentations at this year's MEDx Talks 2019.

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