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국문 강연제목: 디지털 트윈을 적용한 (전)임상시험 미래 방향에 대한 제언

영문 강연제목: A Future Direction of Digital Twins in (Pre)clinical Trials

Abstract

In the era of artificial intelligence, digital twin technologies have improved, gaining the capability to deal with multimodal and complex data. If we can anticipate the conditions of patients and the responses induced by interventions before conducting clinical trials, both safety issues and costs could be reduced.

Not only should data-driven approaches be used, but physiological knowledge should also be integrated into digital twin technologies. In the area of artificial pancreas development, some computational studies and tools have supported the clinical trial processes of testing several artificial pancreas devices through in silico experiments.

Not limited to validating glucose control algorithms, simulation models that reflect real-world data can be helpful in various clinical applications. Thus, future directions for digital twins will be proposed in expanded areas, drawing from studies on medical devices for diabetes mellitus management as examples.

Brief Biosketch

2022-2023 Research Professor in Transdisciplinary Medicine, Seoul National University Hospital

2022 Ph.D., Medicine (Biomedical Engineering), Seoul National University

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