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The Diabetic Patient Agent

Modeling Disease in Humans and the Healthcare System Response

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- Helps diabetic patients predict their blood sugar level based on their lifestyle
- Provides tools to evaluate and examine effects of various medical interventions, lifestyles, and frequency of blood sugar testing on patients' health
- Written by a leading expert in the field

This book provides a pioneering approach to modeling the human diabetic patient using a software agent. It is based on two MASc (Master of Applied Science) theses: one looking at the evolution of the patient agent in time, and another looking the interaction of the patient agent with the healthcare system. It shows that the software agent evolves in a manner analogous to the human patient and exhibits typical attributes of the illness such as reacting to food consumption, medications, and activity. This agent model can be used in a number of different ways, including as a prototype for a specific human patient with the purpose of helping to identify when that patient's condition deviates from normal variations. The software agent can also be used to study the interaction between the human patient and the health care system. This book is of interest to anyone involved in the management of diabetic patients or in societal research into the management of diabetes. The diabetic patient agent was developed using the Ackerman model for diabetes, but this model can be easily adapted for any other model subject with the necessary physiological data to support that model.

1st ed. 2018, XIV, 123 p. 81 illus., 74 illus. in color.

Printed book

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