ARTIFICIAL INTELLIGENCE IN HEALTH CARE

Artificial Intelligence (AI) is becoming more and more ubiquitous, also witness the ‘hype’ of the self-driving car the call for a ban on the use of smart killer robots in warfare, and the fear of AI by well-known persons, including some excellent scientists like Stephen Hawking, "The development of full artificial intelligence could spell the end of the human race". But AI also invades health care and related fields ever more. And I believe this is a good thing. Primarily inspired by work we have done at the Alan Turing Institute Almere (ATIA), in this invited talk I’ll review a number of applications of AI in health care and medicine. I’ll talk about advanced diagnostic techniques based on machine learning, modeling techniques and also artificial companions to assist with the care of patients in a hospital or home setting. These companions are able to monitor the behavior of patients, help them remind of taking medication, but also can have conversations with them giving them the feeling that they are cared for. This is important in times where health care is economized upon like we face in The Netherlands. Moreover, so-called serious games can be used to train health care professionals. In Utrecht we have worked on the personalization of this type of games involving automatic adaptation to knowledge and skills of the user/trainee.

Biography

John-Jules Ch. Meyer studied Mathematics with Computer Science and Digital Signal Processing at Leyden University. He obtained his Ph.D. from the Vrije Universiteit in Amsterdam on a subject in theoretical computer science. Since 1993 he has been a full professor of computer science, and artificial intelligence in particular, at Utrecht University. At the moment he is heading the Artificial Intelligence Division within the Department of Information and Computing Sciences and is programme leader of the AI Master of the UU. Currently he is also the CCO of the Alan Turing Institute Almere, which specializes in multi-disciplinary research for the health sciences, and the CEO of Companion Diagnostics ltd. as a part of Emotional Brain ltd. He has over 500 peer-reviewed publications in international journals and conference proceedings. In 2005 he was appointed as a Fellow of the European Coordinating Committee for Artificial Intelligence.

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