

# **Intelligent decision systems in Medicine -a short survey on medical diagnosis and patient management**

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**Abstract.** The nowadays extensive use of computers in Medicine is remarkably widespread and covers almost all branches of the health care and biomedicine. Since the beginning of the computers rise, many scientists and doctors put their hopes in the aid that computers could provide in the medical decision making based on their ability of storing and processing potential useful information/knowledge. Artificial Intelligence in Medicine has become a very important field in computer-aided medical research, covering various fields (e.g. automated diagnosis and therapy recommendation, image recognition and interpretation, patient management, tele-medicine/tele-health, etc.). A simple PubMed® search regarding the terms “Artificial Intelligence” and “Medicine” displays more than 2000 results, proving thus the huge interest in this field. The present paper presents a short review of some current Machine Learning algorithms (neural networks, genetic algorithms, support vector machines, rough sets, etc.) used for automated diagnosis of different major diseases, such as breast, pancreatic and lung cancer, heart attacks, diabetes. Moreover, it also focuses on the intelligent patient management through Operations Research and Machine Learning techniques.