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Target Population -- 3.2 Hybrid Feature Selection -- 3.3 Bayesian Network -- 3.4 Experimental Results -- 4 Conclusion -- Acknowledgment -- References -- Statistical Analysis of Perinatal Risk Factors for Emergency Caesarean Section -- 1 Introduction -- 2 Materials and Methods -- 2.1 Dataset -- 2.2 Population and Inclusion Criteria -- 2.3 Features -- 2.4 Statistical Evaluation -- 3 Results -- 4 Discussion -- 5 Conclusion -- References -- Modelling of Cancer Patient Records: A Structured Approach to Data Mining and Visual Analytics -- Abstract -- 1 Introduction -- 1.1 Background -- 1.2 Case Study - University Hospital Southampton -- 2 Methodology -- 2.1 Process-Driven Framework -- 2.2 Data Warehousing -- 2.3 Data Mining and Modelling -- 2.4 Visualisation -- 3 Clinical Data -- 3.1 Data Sources and Understanding -- 3.2 Data Pre-processing -- 3.3 Multi-dimensional Modelling -- 4 Results -- 4.1 Visual Analytics -- 4.2 Data Mining and Analytics -- 4.3 Discussion -- 5 Conclusion -- Acknowledgements -- References -- Poster Session -- Contextual Decision Making for Cancer Diagnosis -- 1 Introduction -- 2 Model and Decision Analytic Model -- 3 Cancer Diagnosis and Modeling Cancer Diagnosis -- 3.1 Cancer and Cancer Diagnosis -- 3.2 Modeling Cancer Diagnosis -- 4 Computer Aided/Assisted Diagnosis (CAD). 5 Context and the Role of Context in Medical Decision Making -- 5.1 Context -- 5.2 Modeling Context for Medical Decision Making -- 6 Critical Discussion and Our Approach -- 6.1 Discussion -- 6.2 Our Contribution -- 7 Conclusion -- References -- A Review of Model Prediction in Diabetes and of Designing Glucose Regulators Based on Model Predictive Control for the Artificial Pancreas -- 1 Introduction -- 2 Datasets -- 3 Evaluation Criteria -- 4 Prediction Models -- 4.1 Linear/Nonlinear Dynamic Models -- 4.2 Neural Network Models -- 5 Results -- 6 Artificial Pancreas - Model Predictive Control -- 7 Discussion -- 8 Conclusion -- References -- Audit Trails in OpenSLEX: Paving the Road for Process Mining in Healthcare -- 1 Motivation -- 2 Background -- 2.1 Standardized Audit Trails -- 2.2 OpenSLEX Meta Model -- 3 Problem -- 4 Approach -- 4.1 Mapping of ATNA Messages to OpenSLEX -- 4.2 Transformation of ATNA Messages -- 5 Conclusion and Future Work -- References -- Riemannian Geometry in Sleep Stage Classification -- 1 Introduction -- 2 Materials and Methods -- 2.1 Covariance Matrix -- 2.2 Riemannian Geometry -- 2.3 Classification in Riemannian Geometry -- 3 Experimental Results -- 3.1 Data Description -- 3.2 Results -- 4 Conclusion and Discussion -- References -- The Use of Convolutional Neural Networks in Biomedical Data Processing -- 1 Introduction -- 1.1 Motivation and Clinical View -- 2 Data and Methodology -- 2.1 Input Dataset Description -- 2.2 Preprocessing and Feature Extraction -- 3 Experimental Part -- 3.1 Methodology and Experiment Design -- 3.2 Evaluation -- 4 Conclusion and Final Results -- References -- Reducing Red Blood Cell Transfusions -- Abstract -- 1 Introduction -- 2 Problem Domain -- 3 Classification -- 4 Implementation Details -- 4.1 Data Implementation -- 4.2 User Implementation -- 5 Analyzing and Improving the Algorithm. 5.1 Changes from User Acceptance Testing -- 5.2 Supervised Learning -- 5.3 Phase Two -- 6 Results -- 7 Future Work -- 8 Conclusions -- References -- Author Index.

Sommario/riassunto

This book constitutes the refereed proceedings of the 8th International Conference on Information Technology in Bio- and Medical Informatics, ITBAM 2017, held in Lyon, France, in August 2017. The 3 revised full papers and 6 poster papers presented were carefully reviewed and selected from 15 submissions. The papers address a broad range of topics in applications of information technology to biomedical

