

Department of Computer Science

Clinical Information Systems



The group



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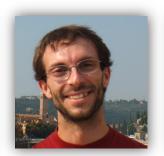
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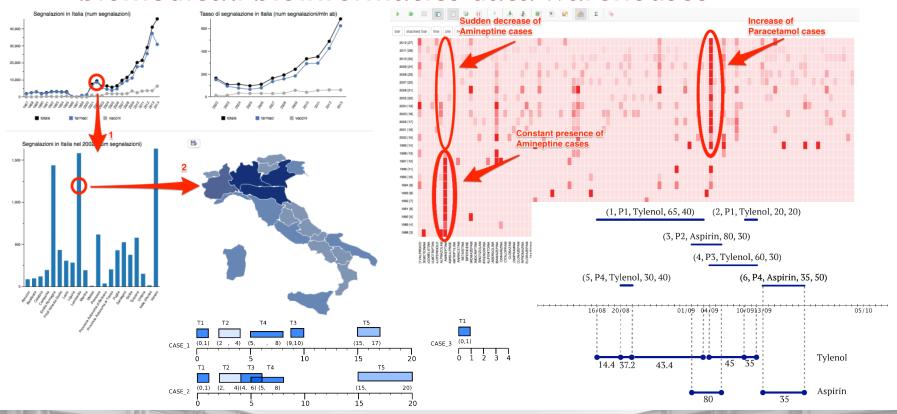


Francesca Zerbato Ph.D. Student



Research on Clinical Topics

(Temporal) OLAP and data mining on biomedical/bioinformatics data warehouses





Research on Clinical Topics

Dealing with clinical guidelines through workflow management systems report read start (1,1) CIR EmergencyRoom;Hypothesis;Result Result Name **BPMN 2.0 STANDARD** Reason BirthDate Connect Process+Data BT \ (0,n) Diagnostic read start (1,1) CI Care overview Name Support care activities Type Admission Patient CP comparison ID Treatmen (0,1) Name PhoneN [0,n] ¦ Starting Therapeutic Туре Hypotherm [5,10] Monitor read during (1,N) CIR ID Class Name CLINICAL **PATHWAYS** attribute 1 Name attribute 2 write during (0,1) CII EmergencyRoom Situation Diagnosis **HEALTHCARE PROCESSES** FINAL MODEL read start (0,1) CII read during (0,N) EmergencyRoom;Treatment read start (1,1) CIR EmergencyRoom;Affect Workflow Clinical Guideline Microbiology Request Peripheral T1 Hospital Admission <PK>> microb reg id : int Microbiology Request. Blood COND1 result_date : Date Suspect Stroke ? (Y/N) has_sample_type floor: String T2 Neurological Assessment Microbiology Request parameter_definition : String has_sample_type Prescribe TOT-AND (do in parallel) microb sample number : int SYN. 9.1 REC. 9.1-9.2 Therapy entering date: Date T3 Blood count+platelets has_sample_type T4 Coagulation tests Treatment CVC has microb_req 0..1 COND2 Admitted to E.R.? (Y/N) Blood Sample Type T5 Electrocardiogram [2,5]<PK>> sample type id : int Microbiology Request. sample_type : String has sample type sample_type_father_id : int UML Class Diagram > sample_type_english : String



Projects and Collaborations

... with the Section of Pharmacology

- Data warehousing and OLAP analysis on RNF (Rete Nazionale di Farmacovigilanza) data
- BPMN-based representation of the adverse drug reaction reporting process
- Semi-automatic encoding of adverse drug reactions in freetext reports
- Analysis of drug consumptions data
- ... with the Section of Psychiatry
 - Analysis of patients contacts
- ... with the Section of Pediatrics
 - Analysis of lab exams



Participation in Bioinformatics Conferences and Journals

- Conference on Artificial Intelligence in Medicine (AIME)
- IEEE International Conference on Healthcare Informatics (ICHI)
- International Symposium on Computer-Based Medical System (CBMS)
- International Conference on Health Information Science (HIS)
- Artificial Intelligence in Medicine
- International Journal of Computers in Healthcare