

# Curriculum Vitae

## Iyad Batal

### PERSONAL INFORMATION

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Citizenship: US citizen

### EDUCATION

**University of Pittsburgh**, Pittsburgh, PA (GPA: 3.93)

PhD, Computer Science, December 2012

Thesis title: Mining Predictive Patterns and Extension to Multivariate Temporal Data

Advisor: Milos Hauskrecht

**University of Damascus**, Damascus, Syria

BS/MA, Computer Science, June 2005

Thesis title: Predicting Stock Prices using Technical Analysis

### RESEARCH INTERESTS

- Data Mining: Temporal Pattern Mining, Subgroup Discovery and Time Series Feature Extraction
- Machine Learning: Probabilistic Graphical Models and Multi-label Classification
- Application of Machine Learning and Data Mining to large healthcare data
- Information Retrieval and Text Mining

## PUBLICATIONS

### Journal Publications

**I. Batal**, H. Valizadegan, G. Cooper and M. Hauskrecht. A Temporal Pattern Mining Approach for Classifying Electronic Health Record Data. ACM Transaction on Intelligent Systems and Technology (ACM TIST), Special Issue on Health Informatics, 2012.

M. Hauskrecht, **I. Batal**, M. Valko, S. Visweswaran, G. Cooper and G. Clermont. Outlier-detection for Patient Monitoring and Alerting. Journal of Biomedical Informatics, 2012.

### Refereed Conference Publications

**I. Batal**, G. Cooper and M. Hauskrecht. A Bayesian Scoring Technique for Mining Predictive and Non-Spurious Rules. The European Conference on Machine Learning and Principles of Knowledge Discovery in Databases (ECML PKDD). Bristol, UK, 2012.

**I. Batal**, D. Fradkin, J. Harrison, F. Moerchen and M. Hauskrecht. Mining Recent Temporal Patterns for Event Detection in Multivariate Time Series Data. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD). Beijing, China, 2012.

**I. Batal**, H. Valizadegan, G. Cooper and M. Hauskrecht. A Pattern Mining Approach for Classifying Multivariate Temporal Data. IEEE International Conference on Bioinformatics and Biomedicine (BIBM) (acceptance rate 20%). Atlanta, GA, 2011. [NSF travel award].

**I. Batal** and M. Hauskrecht. Constructing Classification Features using Minimal Predictive Patterns. ACM Conference on Information and Knowledge Management (CIKM) (acceptance rate 13.4%). Toronto, Canada, 2010.

**I. Batal** and M. Hauskrecht. Mining Clinical Data using Minimal Predictive Rules. Annual American Medical Informatics Association (AMIA) Conference. Washington, DC, 2010.

M. Hauskrecht, M. Valko, **I. Batal**, G. Clermont, S. Visweswaran, G. Cooper. Conditional Outlier Detection for Clinical Alerting. Annual American Medical Informatics Association (AMIA) Conference. Washington, DC, 2010. [**Homer Warner best paper award**].

**I. Batal** and M. Hauskrecht. A Concise Representation of Association Rules using Minimal Predictive Rules. The European Conference on Machine Learning and Principles of Knowledge Discovery in Databases (ECML PKDD) (acceptance rate 16%). Barcelona, Spain, 2010.

**I. Batal** and M. Hauskrecht. A Supervised Time Series Feature Extraction Technique using DCT and DWT. International Conference on Machine Learning and Applications (ICMLA). Miami, FL, 2009.

**I. Batal**, L. Sacchi, R. Bellazzi, and M. Hauskrecht. A Temporal Abstraction Framework for Classifying Clinical Temporal Data. Annual American Medical Informatics Association (AMIA) Conference. San Francisco, CA, 2009.

**I. Batal** and M. Hauskrecht. Boosting KNN Text Classification Accuracy by using Supervised Term Weighting Schemes. ACM Conference on Information and Knowledge Management (CIKM). Hong Kong, 2009.

**I. Batal**, L. Sacchi, R. Bellazzi, and M. Hauskrecht. Multivariate Time Series Classification with Temporal Abstractions. Florida Artificial Intelligence Research Society (FLAIRS), Sanibel, FL, 2009.

## **WORK EXPERIENCE**

- Research Intern at Siemens Corporate Research: Summer 2011
- Research Intern at Yahoo!: Summer 2010
- Research Assistant: Fall 2008 until Spring 2012
- Teaching Fellow (Instructor): Fall 2007, Spring 2008
- Teaching Assistant: Fall 2006, Spring 2007
- Developed, with a friend, the *Majestic* accounting software: 2006 (in Syria)

**AWARDS AND HONORS**

- Andrew Mellon Predoctoral Fellowship, 2011-2012
- National Library of Medicine (NLM) Fellowship, 2010-2011
- Runner-up for the Best Graduate Student Research Award, 2011
- Runner-up for the Best Graduate Student Research Award, 2010

**PROFESSIONAL SERVICES**

Reviewer for KDD (2012), ICML (2012), KDD (2011), AMIA (2011), KDD (2010), ACI (2010), IJCAI (2009), AMIA (2009) and MEDINFO (2009)

**COMPUTER SKILLS**

- Numerical computing: MATLAB (professional) and R
- Programming: Java, C++, C#, C, Prolog, PHP, XML, Java Script and SQL

**LANGUAGES**

Arabic (native), English (fluent) and French (good)

**PERSONAL INTERESTS AND HOBBIES**

Basketball, kickboxing and pool