Haitham Elmarakeby

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SUMMARY: I am a PhD student interested in **internship/co-op** in the area of data mining and machine learning. I have experience in supervised learning, clustering, semi-supervised learning, and feature selection.

EDUCATION

Doctor of Philosophy, Computer Science, Virginia Tech, Blacksburg, VA, Expected Jan. 2016
Dissertation: *Deep Learning for Biological Data.*

Master of Science, Computer Engineering, Cairo University, 2010
Thesis*: A generalized object detection and localization framework using automatics feature selection.*

Bachelor of Science, Computer Engineering, Azhar University**,** May 2004
Ranked First on class.

SKILLS

Matlab, R, Python, C, C++, C#, Java, Pylearn2, Scikit-learn, outstanding research skills.

HONORS AND AWARDS

- Ranked 4^{th} in the Broad-DREAM Gene-Essentiality Prediction Challenge 9.0, 2014.
- CS Grad Council grant to attend Machine Learning Summer School (MLSS @ CMU), 2014.
- PhD scholarship award, Higher Education Ministry, Egypt, 2011.
- Young Innovation Award (YIA), Egypt, 2009.
- Honored for being first of my class 2001, 2002, 2003, and 2004.
- Winner of Information League, Egyptian Universities Youth Week, 2003.

RESEARCH INTERESTS

Machine learning, data mining, bioinformatics, computational biology, system biology.

RELATED EXPERIENCE

2011 – now **PhD Research**, Computer Science, Virginia Tech

- Studied 12 courses: Data Mining, Convex Optimization, Statistics in Research, Software Engineering, Intro to Artificial Intelligence, Computational Systems Biology, Algorithms in Bioinformatics, Theory of Algorithms, Computational Genomics, Paradigms for Bioinformatics, Data Management of Bioinformatics, Bayesian Statistics (audit).
- Applied deep learning for biological data to predict how essential a gene is for cancer to survive.
- Implemented a novel system to classify and name organisms based on genome contents.
- Developed a system to predict potential targets of human miRNA in Hepatitis C virus genome.

2006 – 2011 **Teaching Assistant,** Azhar University, Cairo, Egypt

- Taught more than ten different courses and labs for undergraduate students.

- Monitored students working on graduation projects and helped them overcome difficulties in theory and implementation.
- Selected, by students, as the best TA in 2010.

2008 – 2010 **Senior Software Engineer**, Horizons Software (CMMI 3), Cairo, Egypt

- Analyzed, designed, developed, and tested many modules of Strategy Architect (SA) application using .Net technology according to the defined processes at Horizons.
- Re-architected the SA application to face the new requirements and enhance the maintainability of the existing code.

PUBLICATIONS

Alexandra J. Weisberg, Haitham Marakeby, Lenwood S. Heath, Boris Vinatzer, **Sequentially assigned genome similarity-based isolate names are informative of deep phylogenetic relationships of Ebola virus (EBOV)**, submitted

Haitham Marakeby, Eman Badr, Hanaa Torkey Song Y, Leman S, et al. (2014) **A System to Automatically Classify and Name Any Individual Genome-Sequenced Organism Independently of Current Biological Classification and Nomenclature.** PLoS ONE 9(2)

Fatmaelzahraa Eid, Haitham Elmarakeby, Lenwood S. Heath, and Mahmoud Elhefanwi, **Human MicroRNAs Targeting Hepatitis C Virus,** MECBME'14

M. Zaki, Samir Shahin, and Haitham Almarakeby, **Multiple Object Detection and Localization System using Automatic Feature Selection,** International Journal of Signal and Imaging Systems Engineering, Accepted

Haitham Elmarakeby, **Generalized Object Detection and Localization System using Automatic Feature Selection**, Master thesis, 2010

Haitham Elmarakeby, M. Zaki, and Samir Shahin, **A generalized object detection system using automatic feature selection**, The International Conference on Intelligent Systems Design and Applications (ISDA), Cairo, 2010

UNPUBLISHED WORK

Deep models versus kernel machines: who is the winner?
https://www.synapse.org/#!Synapse:syn2575689

Multilayer Feature Selection Framework for Rheumatoid Arthritis Responder Prediction
https://www.synapse.org/#!Synapse:syn2495282