Omar M. ElTayeby

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EDUCATION

UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE, CHARLOTTE, NC December 2018 (expected)
Ph.D. in Computer Science, **GPA**: 3.9/4.0

CLARK ATLANTA UNIVERSITY, ATLANTA, GA May 2014
M.S. in Computer & Information Sciences, **GPA**: 4.0/4.0
Thesis title: Measuring the Influence of Mainstream Media on Twitter Users

ALEXANDRIA UNIVERSITY, ALEXANDRIA, EGYPT July 2011
B.S. in Communications & Electronics Engineering

EXPERIENCE

Research Assistant: University of North Carolina at Charlotte, NC August 2014 – present

Personalized Curiosity Engine: used: Python, Linux
- Aim: personalize user's curiosity in recommendation systems
- Applied a Conditional Random Field model to extract ingredients from recipes dataset
- Applied Naïve Bayes Classification to tag recipes with the most relevant cuisines

Emotion Contagion: used: R script, Python
- Developed a computation methodology for measuring users' engagement on social media for Public Relations
- Developed a visualization dashboard for exploring the characteristics of bots in Twitter datasets
- Published a poster on a novel observational study of the frequency and significance of social media users' profile changes

Learning Analytics: used: Python, Linux
- Developed a case study with faculty leaders to address their hypotheses about students' attrition reasons
- Developed a model to predict students' success according to their interactions with a Learning Management System
- Presented a poster about the case study at The Event Event[1] workshop in the VIS conference 2016

DemographicVis: used: Python, HTML, CSS, JavaScript, D3, MongDB, Linux
- Aim: infer demographic information based on their generated content using an interactive visualization
- Developed an interface that enables the exploration of interesting topics for social media users
- The interface shows the relation between the demographic groups and topics of interests
- Published at the VIS conference 2015. The link to the interface is at[2] and the preview video is at[3]

Informatics Specialist Intern: Mayo Clinic, MN May 2017 – August 2017
- Aim: optimize resource allocation and research prioritization strategy for diseases
- Method: examined the public's perspective on their attention to different diseases
- Analyzed Reuters Corpora for comparing change in disease mention, sentiment and topics over time

Teaching Assistant: Clark Atlanta University, Georgia January 2014 – May 2014
- Presented basic concepts of Software Engineering for graduate students
- Prepared assignments for the students to grasp the understanding of software development cycles
- Organized the collaboration between students for the class project

[1] http://eventevent.github.io/, [2]demographicvis.uncc.edu, [3]vimeo.com/136206149

User Assistance Intern: Oak Ridge National Laboratory, TN Summer 2013

Lustre file system Monitor: used: Python, HTML, CSS, JavaScript, D3 & Highcharts

- Aim: monitor the storage & I/O requests on High Performance Computers
- Developed a time-series web-based visualization tool to monitor the storage and I/O usage
- Compared the performances between two JavaScript libraries
- Published and presented a poster at LDAV of the VIS conference 2013

Research Assistant: Clark Atlanta University, Georgia August 2012 – May 2013

Twitter sentiment analysis: used: Python, NLTK, Weka, C++, SQL, Linux

- Analyzed the media's influence on Twitter users using unsupervised learning
- Classified biased from unbiased news sources according to the users' responses to the news pages
- Published a paper at the Complex Adaptive Systems Conference

PUBLICATIONS, POSTERS & TALKS

Huang, M., **ElTayeby, O.**, Zolnoori, M. and Yao, L., 2018. "Public Opinions Toward Diseases: Infodemiological Study on News Media Data." Journal of medical Internet research, 20(5), p.e10047.

Mahzoon, M.J., Maher, M.L., **Eltayeby, O.**, Dou, W. and Grace, K., 2018. "A Sequence Data Model for Analyzing Temporal Patterns of Student Data." Journal of Learning Analytics, 5(1), pp.55-74.

ElTayeby, O., Eaglin, T., Abdullah, M., Burlinson, D., Dou, W. and Yao, L. "Detecting Drinking-Related Contents on Social Media by Classifying Heterogeneous Data Types." In *International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems,* 2017 (pp. 364-373). Springer, Cham.

ElTayeby, O., Dou, W. "A Survey on Interaction Log Analysis for Evaluating Exploratory Visualizations." In *BELIV Workshop, 2016, IEEE Conference on Information Visualization*. IEEE.

Dou, W., Cho, I., **ElTayeby, O.**, Choo, J., Wang X., and Ribarsky, W. "DemographicVis: Analyzing demographic information based on user generated content." In *Visual Analytics Science and Technology (VAST)*, 2015 *IEEE Conference on Information Visualization*, (pp. 57-64). IEEE.

ElTayeby, O., Molnar, P. and George, R. "Measuring the Influence of Mass Media on Opinion Segregation through Twitter." *Procedia Computer Science, 36*, (pp.152-159). ScienceDirect.

ElTayeby, O., John, D., Patel, P. and Simmerman, S. "Comparative case study between D3 & Highcharts on Lustre metadata visualization." *IEEE Symposium on Large-Scale Data Analysis and Visualization (LDAV), 2013* (pp. 127-128). IEEE [Poster]

ElTayeby, O. and El Kamchouchi, H. "SAR imagery improvement using hybrid waveforms." In *9th European Conference on Synthetic Aperture Radar, 2012. EUSAR.* (pp. 107-110). VDE.

COURSES & SKILLS

Courses: Algorithms & Data Structure, Software Engineering, Database Systems, Intelligent Systems, Operating Systems, Computer Architecture, Machine Learning, Knowledge Discovery in Databases, Information Visualization, Parallel Computing, Complex Adaptive Systems, Cloud Computing for Data Analysis

Programming languages: Python (Numpy, Scipy, PyMongo, PySpark, Jupyter), Java (JDBC), C/C++, MATLAB, HTML5, CSS, PHP, JavaScript (jQuery, D3, Esri, Leaflet, AJAX, Bootstrap), Hadoop, Pig, XML, Assembly, Bash and Shell scripting, Parallel Computing (MPI, OpenMP, CUDA), SAS programming, R script

Databases: SQL, MongoDB, Neo4j