Mohamed Khodeir

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Education

June 2015 - Present	Data Science Nanodegree, Udacity
September 2011 - April 2015	BSc in Computer Science, University of Toronto

Work Experience

Internal Application Developer at **Sippa, Cairo** Jun 2014-Present

Paper Manufacturing, Processing and Trading Firm

Developed and deployed a web-based solution for warehouse management and accounts automation. Worked closely with several divisions of the administrative team to understand and convert their existing paper-based operations into a company-wide subsystem.

Technologies Used: Python, Django, CSS, Javascript & jQuery, MySQL, AWS, git

Freelance Web Developer at **Cultural Hotspot** Jan-Oct 2014

Cultural Outreach program based in Scarborough by the City of Toronto

Led a team of 5 in developing a web application for the management and publication of city sponsored local events. Personally deployed and maintained the app remotely over the duration of the outreach program at the request of the client.

Technologies Used: Python, Django JavaScript & jQuery, Google Maps API, postgreSQL, Google Analytics, git

Projects

Data Wrangling Cairo OpenStreetMaps | On Github July 2015

Extracted Cairo OSM data, assessed data quality and consistency. Cleaned relevant data fields, and added missing fields from redundancies. Inserted data into MongoDB collection. Extracted statistics using MongoDB aggregation queries.

Technologies Used: Python, MongoDB, XML, git

Analyzing NYC Subway Dataset | On Github June 2015

Used hypothesis tests and visualizations to analyze distribution of subway usage. Fitted a linear model to predict subway usage, and analyzed the model fit by looking at the residuals using QQ plots and histograms

Technologies Used: Python, pyggplot, pandas, git

Modelling Symbolic Music with Probabilistic Models | UofT March 2014

Explored the application of Hidden Markov Models, Recurrent Boltzmann Machines at modelling temporal musical sequences. Compared their performance empirically on prediction of unseen pieces as well as subjectively on novel music generation.

Technologies Used: Python, Theano, pyCuda, matplotlib, git

InstuGuide EduTech Startup | The Entrepeneurship Hatchery, UofT Jan-Sept 2014

Co-founded a team of college juniors with the intention of tackling specific problems in the educational system. Developed and presented the team's business model in startup competitions and incubators such as UTEST and UofT's Entrepeneurship Hatchery. Team was selected as one of The Hatchery 2014 teams.

Technologies Used: AngularJS, Python-Flask, HTML, CSS, git

Neural Networks Software Library | On Github Jun-Aug 2013

Implemented an extensible software suite of neural-network architectures, training algorithms and useful utility functions for quickly prototyping and experimenting with neural networks for machine learning. The library uses numpy and scipy to implement feed forward nets, restricted boltzmann machines, autoencoders, and corresponding training algorithms.

Technologies Used: Python, numpy, scipy, Matplotlib, git

Kaggle Machine Learning Competitions | On Kaggle Jun-Aug 2013

Successfully competed in two online Machine Learning competitions on Kaggle.com using the aforementioned library. Achieved 2nd place on the leaderboards in Facial Keypoints Detection.

Technologies Used: Python, numpy, scipy, scikit-learn, Matplotlib, Matlab, git

Technical Expertise

Programming/Scripting:	Python, R, C/C++, MatLab, Java, Bash, JavaScript
Software/Libraries:	Numpy, Scipy, Theano, Hebel, CUDA/pyCUDA, OpenCV
Web Technologies:	HTML, CSS, Django, Flask, AngularJS,
Databases Technologies:	MongoDB, SQL
Version Control:	git, svn