Mahmoud Lababidi

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Education

Ph.D. Physics - Aug 2013 - George Mason University, Fairfax, VA
Thesis: Heterostructures of Topological Insulators and Superconductors

B.S. Computer Engineering - May 2006 - University of Florida, Gainesville, FL

Experience

HumanGeo, Arlington, VA
Senior Data Scientist Oct 2014 to Current

Develop data-centric tools for Government Customers that retrieve, ingest, process and store public open source data in streaming and batch manners using Storm, Spark, MapReduce, Elastsearch. Create user-centric visualizations for analytic reports. Built Machine Learning classifiers to determine Arabic dialects, emotions, and other features in text and images. Used Natural Language Processing tools to build topic extraction systems. ETL and analyze Time Series data to forecast future events. Visualize Time Series data and show correlations, statistics, calculations of Hold Machine Learning and Data Science internal seminars to Government employees and colleagues. Technology used: Python, Pandas, NumPy, SciPy, SciKit-Learn, Java, Storm, Spark, D3.

GeneralAssembly, Washington, DC
Instructor - Data Science Sep 2015 to Current

Teaching an 11-week Introduction to Data Science course that covers: Data scraping/cleansing, Analysis using Pandas, Visualization, Machine Learning (Decision Trees, Linear/Logistic Regression, KNN, Naive Bayes, SVM), Natural Language Processing https://generalassemb.ly/instructors/mahmoud-lababidi/6895

Zoomph, Reston, VA
Data Scientist Mar 2014 to Oct 2014

Designed, tested, and deployed Machine Learning sentiment analysis classifiers (Support Vector Machine, Naive Bayes, Maximum Entropy) for Twitter analysis product with Python NLTK and SciKit-Learn. Also built front end visualizations and graphs using D3 and JQuery to show results. Created new algorithm to value Tweets and posts on the platform. A/B testing. Spam filtering.

George Mason University, Fairfax, VA
Graduate Research Assistant Jun 2008 to August 2013

Designed and simulated mathematical realistic models of quantum electronic systems and quantum optic systems using C++, MatLab, Mathematica. Published several papers and presented the work at several conferences. Studied novel materials (topological insulators and graphene) to understand their interplay with superconductors using high-perfomance computing to produce computational simluations.

Instructor Jan 2008 to May 2011

Taught introductory College and University Physics labs and recitations and ECE - Signals and Systems; Lesson preparation; Quiz, test, lab grading and preparation.

Google, Mountain View, CA
Data Center Technician (Temp) Dec 2006 to Feb 2007

Responsible for installing servers, cabling, and Linux/Windows in Corporate Data Centers. Resolved and debugged server failures and inconsistencies. Used Linux, computer hardware troubleshooting, networking and shell scripting.

Technical Skills

Python, Numpy, Scipy, Pandas, Scikit-Learn, NLTK, Machine Learning, Natural Language Processing, C++, C, Python, Java, SQL, Linux, Mathematica, Matlab, R, Amazon AWS, Git, JavaScript, D3, Storm, Spark, MapReduce, ElasticSearch

Contributer to Open Source Projects: Apache Spark, PANDAS, Elasticsearch.

Publications, Conferences

Physical Review Letters 112, 026805 (2014)
Physical Review B 86 161108 (2012)
Physical Review A 84 042335 (2011)
Physical Review B 83 184511 (2011)
Physical Review B 82 205331 (2010)

APS March Meeting 2013, 2012, 2011
APS DAMOP 2009