AbderRahman Sobh

Data Scientist

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EXPERIENCE

Lead Data Scientist – Life 360, Inc.

Dec-2017 – Present

Data Science Tasks:

Lead development of a comprehensive, high-level Roadmap of Data Science projects using: User Location Data, Driver Behavior Data, App Usage Behavioral Data, and various internal platform metric datasets.

Defined the optimal path of development through available projects, guaranteeing maximum modularity and reusability of project sub-components.

Developed a pipeline for refining location data, enriching it with additional insightful transformations, and storing it in a format readily available for predictions.

Developed a tool for predicting and ranking most relevant user locations based on user/group behavioral history (Location clustering, time series analysis).

Installed and automated developed tools into a live location streaming production environment so that incoming data is automatically refined, generates predictions, and delivers the predictions via a readily available endpoint.

Product Management Tasks:

Planned in-app delivery of new Data Science insight endpoint as a product suggesting investigation of interesting events and locations to users.

Aligned product delivery within company vision and user-persona relevance in order to maintain feature consistency and a familiar user experience.

Coordinated between departments to secure resources and review proposed initiatives.

Provided reasonable ticket scoping and timelines for objective completion.

SKILLS

Python, SQL, NoSQL, MySQL, Docker, AWS(EC2, Lambda, S3, EMR, Redshift), Spark, Tableau, R, SAS, Matlab, Mathematica, C, C++, TCL, VBA/Excel, Fortran90, HTML,PHP, JavaScript, CSS, XML, OSX, Linux, Windows

Groups

Data Scientist Engineers Project (2016-2017) - Burlingame, Ca

New York Open Statistical Programming (2013-Present) - Manhattan, NY

LANGUAGES

English, Arabic, Japanese

Data Scientist – AJ+ / Al Jazeera International

Dec-2016 – Dec-2017

Data Science Tasks:

Developed Data Science tools from end-to-end:
Product conceptualization, database/schema design, pipeline creation, Dockerized deployment, insight via easily consumable deliverables (Tableau dashboards, Slackbot), data-driven weight corrections, refinement of deliverables based on user feedback.

Developed a tool for live scoring of Social Media Engagement (i.e. Likes, Shares, Comments) for media produced by the company on Facebook, YouTube, Instagram, Twitter.

Published an article under the AJ+ brand, documenting the scoring tool's creation process for the benefit of the public community.
<https://medium.com/aj-platforms/re-thinking-engagement-at-aj-69a35e0a38c>

Developed tools for text-feature extraction including analysis of grammar used, content topic modeling, word vector embedding, sentiment analysis.

Proved the need for, and successfully implemented, an overhaul of legacy data science tools and inferences used by the company.

Developed and presented a comprehensive Roadmap of potential Data Science projects available for development in the Social Media context.

Met with vendors and reviewed their 3rd party platforms for data solutions.

Data Engineering Tasks:

Collaborated with Data Engineers to define data collection requirements.

Planned, reviewed, implemented, and populated database schemas and views.

Built, modified, deployed, and repaired ETLs for data collection pipelines.

Implemented re-usable tools to supplement Data Engineering tasks
(i.e. a script that copies data from S3 storage into a Redshift database)

Software Engineer - University of Illinois at Urbana-Champaign

Jan-2012 - Dec-2016

Data Science Platform:

Designed data science pipelines using Jupyter Notebooks, Python ML libraries, and Spark to provide single-click analysis tools for educating future data scientists.

Built distributed machine learning tools using Python, PySpark, and Pandas which simplify the use of NLP and Text feature extraction.

Optimized AWS Elastic MapReduce by leveraging Spark and increasing the distributed performance.

Collaborated with Full Stack developers to integrate data science pipelines using Docker containers to encapsulate various data science software stacks providing end-users with quick usage of data-science tools and visualizations.

Simulation Workflow Development:

Collaborate and integrate software applications within openVZ containers providing rapid deployment and accessibility of custom built GUI within Nanobio portal webapp.

Develop graphical user interfaces using TCL and RAPPTURE (XML framework) for the containerized applications to ease the usage of applications for portal end-users.

Optimize simulation memory-handling and runtime on millions of data points using Python, TCL- specifically using associative arrays/hash mapping.

Connected developed workflows to remote cluster systems and optimized parallel threading on serial coding procedures to accommodate scaling.

Integrated visualized workflow results using the VTK toolkit for robust manipulation on custom displays.

EDUCATION

University of Illinois at Urbana-Champaign
Bachelors of Science in Statistics

August 2007 - May 2012

Dean's Honor List (2008), (2012)

PROJECTS

GDAX Automated Trader — Developer (2017)

With the recent hype in cryptocurrency markets, a lot of progress has been made in terms of making publicly available APIs for sending trades. I took advantage of the GDAX API to make my own automated trader, watching for trends and sending out orders to buy/sell accordingly based on insight from the trend detection algorithm.

This project is necessarily closed source.

Kaggle Data Science — Competitor (2016)

During the Kaggle competition I cleaned data sets, normalized data, and predicted missing values. I leveraged the use of NLP and clustering to investigate text features. In addition, I performed feature selection, created models to predict new data values using Python/Pandas, GraphLab, scikit-learn, XGBoost, and Amazon Web Services for parallel data processing workflows. My efforts received public recognition and a key part of the script is open source (aka a "Kaggle Kernel").

https://github.com/itg-abby/KaggleScripts/

Automated Level Creator — Developer (2015)

Development of level files for rhythm-based video games is something that is typically done by hand. The aim of this open source script is to reduce the amount of human effort spent on analyzing songs for relevant sound features. Specifically, relevant features are mapped according to a given time signature and presented in an output format readable by programs such as Stepmania. Time series analysis is powered by the AUBIO library for Python.

https://github.com/itg-abby/StepGen

Portfolio

https://itg-abby.github.io/portfolio/