Malcolm Taylor

U.S. Citizen

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EDUCATION			
	Boston University, Questrom School of Business	*M.S. Mathematical Finance*	Jan 2017
	University of Illinois at Urbana- Champaign	*B.S. Mechanical Engineering*	May 2015
	New York Data Science Academy, Big Data and Hadoop 6 Week Workshop		Aug 2017

EXPERIENCE

Argus Information and Advisory Services, White Plains, NY - Modeling Team Associate — 2017
- Explained patterns in large data sets by using decision trees, linear regression and variable reduction to build explanatory, stable ensemble model
- Created ensemble models to predict the amount an account would spend on a given card type with over 700 variables from different sources using SQL, SAS, and R
- Implemented Gradient Boosted Tree modeling process for variable reduction and robust, stable models for various credit card attributes using R and H2O modeling platform
- Reduced team documentation time by automating document formulation from macro-enabled Excel scripts using Python

Charles River Development, Burlington, MA – Scenario Analysis Business Analyst Intern — 2016
- Interpreted high level software requirements for developers by creating screen mockups to reduce product iterations and to gather team feedback rapidly
- Designed scenarios to mimic economic shocks for the Solvency II European regulations using Charles River Investment Management platform
- Created R Script and SQL queries to prototype mathematical calculation for implementation of factor models used to test java implementation
- Conducted market research on competitor scenario analysis products to enhance internal awareness of industry trends

PROJECTS

Wine Quality Bayesian Analysis (Python), Bronx, NY – Personal Project — 2017
- Analyzed dataset of 11 wine chemical components and the quality ratings for 1600 pairings
- Use logistic regression and random forest to create a baseline for the model – found sugar and alcohol to be most important variables when selecting high quality from low quality wines
- Used Bayesian logistic regression to analyze the effect of a prior on the analysis

Rental List Inquiries (R), Bronx, NY – Kaggle.com — 2017
- Predicted interest for listings given *13* categories of information about listings from apartment rental website RentalHop.com - data included apt description, price and other numeric fields
- Used sentiment analysis, time date information, with gradient boosted tree algorithm to obtain test sample log-loss of 0.732; lowest log loss on Kaggle.com was 0.492
- Used Random Search through parameters in gradient boosted tree using H2O platform for parallel computations; found optimal parameters to minimize log loss

Abalones Age Prediction (Python), Boston, MA – Personal Project — 2016
- Predicted age category of abalone sea creature using 4100 observations about the dimensions and various weights of the creature- 7 original variables in data set
- Used KNN, logistic regression and random forest algorithms; found cross validation accuracy of 65% for most algorithms

UnderArmour Stock and Stephen Curry Regression (R), Boston, MA – Personal Project — 2016
- Used OLS and PCA regression on Stephen Curry basketball performance data to find correlation with his sponsor UnderArmour's overnight stock returns; obtained adjusted R^2 of 38.1%
- Found field goals and assists were significant predictors of stock log returns in OLS regression

VIX Forecasting- Monte Carlo Bayesian Simulation (R), Boston, MA – Boston University — 2016
- Predicted VIX price using an AR(3) model and 3 years of weekly historical data by sampling from the distribution of the model coefficients
- Back tested model against VIX data starting from 1990; Found the model mean overestimated 83% of the historical returns

SKILLS — Python, R, SQL, Bayesian Inference, Deep Learning, Statistical Analysis, Regression Analysis

INTERESTS — Salsa Dancing, Sailing, Tennis, Physics Tutoring