

Malcolm Taylor

U.S. Citizen

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EDUCATION	Boston University , Questrom School of Business	<i>M.S. Mathematical Finance</i>	Jan 2017
	University of Illinois at Urbana- Champaign	<i>B.S. Mechanical Engineering</i>	May 2015
	New York Data Science Academy, Big Data and Hadoop 6 Week Workshop		Expected Aug 2017
	Grand Scribe, Kappa Sigma Fraternity, Spring 2014		
	Founder, Treasurer, Illini Food Recovery Network, Fall 2013		
EXPERIENCE	Argus Information and Advisory Services , White Plains, NY – Modeling Team: Associate 2017		
	<ul style="list-style-type: none">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 RFiltered population using SQL to find the appropriate representative sampleUsed decision trees, linear regression and variable reduction to choose best model variablesEnsured model interpretability by checking for collinearity within variables and hypothesis tests for coefficient insignificance; validated models using SQL and SAS on out of sample data setsDocumented all stages of model development to ensure robustness of model and adherence to business requirements		
	Charles River Development , Burlington, MA – Scenario Analysis: Business Analyst Intern 2016		
	<ul style="list-style-type: none">Interpreted high level software requirements for developers by creating screen mockups to reduce product iterations and to gather team feedback rapidlyDesigned scenarios to mimic economic shocks for the Solvency II European regulations using Charles River Investment Management platformCreated R Script and SQL queries to prototype mathematical calculation for implementation of factor models used to test java implementation		
PROJECTS	Rental List Inquiries (R) , Bronx, NY – Kaggle.com 2017		
	<ul style="list-style-type: none">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 fieldsUsed sentiment analysis, time date information, with gradient boosted tree algorithm to obtain test sample log-loss of 0.80; lowest log loss on Kaggle.com was 0.51Used 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		
	<ul style="list-style-type: none">Predicted age category of abalone sea creature using 4100 observations about the dimensions and various weights of the creature- 7 original variables in data setUsed 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		
	<ul style="list-style-type: none">Used linear & principal components regression on Stephen Curry basketball performance data and his sponsor UnderArmour's overnight stock returns; obtained adjusted R² of 38.1%Found field goals and assists were significant predictors of stock log returns in linear regression		
	VIX Forecasting- Monte Carlo Bayesian Simulation (R) , Boston, MA - Boston University 2016		
	<ul style="list-style-type: none">Predicted VIX price using an AR(3) model and 3 years of weekly historical data by sampling from the distribution of the model coefficientsBack tested model against VIX data starting from 1990; Found the posterior distribution mean overestimated 83% of the historical returns		
	Dance Routine Monte Carlo Simulation (C++) , Bronx, NY – Personal Project 2015		
	<ul style="list-style-type: none">Created a program that reads multiple dance moves, success rate, and time length of moveCalculated expected success rate of combinations of dance moves using Monte Carlo simulation and given dance time constraintConducted sensitivity analysis to find practice stopping points by choosing expected success rate		
SKILLS	SQL, R, Python, C++, MatLab, MS Office, Data Science, Machine Learning, Bayesian Inference, Regression Analysis, Time Series Analysis, Statistical Modeling		
INTERESTS	Tennis, Sailing, Ballroom Dancing, 3D Designing, Physics Tutoring		