Christopher Daigle

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Data scientist specializing in machine learning and software engineering • Army Veteran • Open source contributor • Leadership of small teams, running a startup, and lead pilot in Afghanistan • Comfortable with ambiguity and driving results with little oversight

Key Skills

Technology: Python • SQL • Git & GitHub • Bash / Unix / Shell • Pandas • NumPy • SciKit-Learn • SciPy • StatsModels • H2O • AWS • R • Stata

Quantitative: Machine Learning • Natural Language Processing (NLP) • Statistical Analysis & Predictive Modeling • Supervised Learning • Unsupervised Learning • Dimensionality Reduction • Hypothesis Testing

Professional Experience

The Hartford Financial Services Group, Inc. – *Senior Data Scientist* Jul 20 – Pres.

- Helped business partners define and transform problems into data science solutions
- Assisted Claims Data Science in standardizing data science practices by consulting for peer review standards, software engineering principles, version control, and Scrum principles
- Mentored data scientists on scientific methods and approaches to problem solving
- Created models, re-usable features, and standard methods for Workers Compensation Data Science

Pratt & Whitney – *Manager, Data Scientist* Jan 19 – Jul 20

- Helped reduce cost by $29 million per year by identifying the optimal allocation of 75,000+ parts sold by 5,000+ vendors by creating an algorithm and engineering software
- Reduced analysis time of supply chain network from 1.5 months to < 1 second by creating an algorithm, engineering an API, and deploying a Flask application resulting in continued global supply chain operations
- Performed data science, project management, data engineer, software engineer, and DevOps duties

Boise Analytics – *Partner, Data Scientist* Dec 17 – Jan 19

- Assisted 43 non-profits and small businesses solve data problems through data science solutions
- Increased company talent by interviewing and mentoring 38 data analysts

University of Connecticut – *Economics Instructor* Aug 16 – Aug 18

- Instructed microeconomics and economic research methods to undergraduates

Boise State University – *Economic Researcher* Jan 14 – May 16

- Produced economic research in partnership with Yale University to measure GDP from satellite imagery
- Measured returns to investment in education for students in Idaho, partnered with Boise State University's Economics Department and Idaho Voices for Children

Veterans Affairs – *Work Study* Apr 13 – May 14

AAI Corporation – *Lead Pilot, Army Unit F-227* Oct 10 – Apr 13

US Army – *Sergeant, Drone Pilot* Sep 04 – Oct 10

Products

Workers Compensation Triage Suite *Data Science* (proprietary models and methodologies)

Purpose: identify claims that are most likely to be complex for claim handlers and nurses to manage (6 separate products)

Machine Learning: GLM (Logistic Regression, Gamma, Tweedie, OLS), Random Forest Regression & Classification, Decision Tree, VAE, KMeans, DBSCAN, FAMD, MCA, Anomaly Detection, Hypothesis Testing

Technology: Python, Linux, Oracle SQL, Sklearn, H2O, StatsModels, SciPy, PyTorch, Keras, Tensorflow, Matplotlib, Seaborn, PyTest, PipEnv, VSCode, Jupyter, Git, GitHub

Rebate Optimization *Software Engineering* (proprietary software)

Purpose: increase rebates from suppliers, reduce spending, and reduce overall cost

Outcome: application to determine the optimal allocation of spending at the part level for 5,000+ vendors over 75,000+ jet engine components

Technology: Python, NumPy, Pandas, Oracle SQL, PyInstaller

Alternative Vendor Identification *Software Engineering* (proprietary software)

Purpose: mitigate impact of COVID-19 on global flight operations

Outcome: application identifies vendors having shared capability or sole source for repairs – performs for entire supply base in <1 minute what took 5 senior sourcing professional 1.5 months to analyze for a single vendor

Technology: Python, NumPy, Pandas, Oracle SQL, Flask

Commodity Classification Innovation *Natural Language Processing, Classification* (proprietary software)

Purpose: identify jet engine commodities from purchase orders executed by global supply buyers

Outcome: model that classifies 90%, up from 60%, of $16 billion worth of purchase orders

Technology: Python, SQL, Pandas, NumPy, NLTK, SciKit-Learn (sklearn), Tensorflow and Keras

Machine Learning: Multinomial Naïve Bayes, AdaBoost, Bagging, Random Forest, TF-IDF

Performance: 94% F-1 Score, 96% Recall, 93% Precision

Find Donors for Charity *Supervised Learning* quantchris.com/project/Donor-Classification/

Purpose: maximize the likelihood of receiving donations by predicting if a person receives income exceeding 50k/year

Technology: Python, Scikit-Learn (sklearn), Pandas, NumPy, Seaborn, Plotly, PyCharm, Jupyter Notebook

Machine Learning: Ensemble Methods (ADABoost, Random Forest, Gradient Boosting), Logistic Regression, KNN, Naïve Bayes, Grid Search, Feature Scaling (Standardization, Normalization, Logarithmic Transform), One-Hot-Encoding (OHE)

Performance: 87.26% Accuracy, 76.05% F-0.5 Score

Predicting Movements in Social Security Filings *Supervised Learning,* quantchris.com/project/sup-ss-move

Purpose: determine if movements in social security filings can be predicted from economic and financial indicators

Technology: R, R-Studio, Python, beautifulsoup, Pandas

Machine Learning: Logistic Regression, Limited Dependent Variable (LDV), Greedy Selection Methods (Backward, Forward, Sequential Replacement), Hypothesis Testing (Augmented Dickey-Fuller, Likelihood-Ratio Test)

Performance: 93% Accuracy; 92% F1-Score

Predict Clothing Items *Deep Learning, Classification* tinyurl.com/DLCloth

Purpose: create an application that can be trained on any set of labeled images to predict the contents of an image

Technology: Python, PyTorch, argparse, PIL, Scikit-Learn, Pandas, NumPy, Seaborn

Machine Learning: Artificial Neural Networks (ANN), Transfer Learning (VGG11), Dropout, Rectified Linear Unit (ReLU)

Awards

Special Award – Innovation Award, Pratt & Whitney, given to 5 out of 240,000 United Technologies employees annually

Continuous Improvement – Ultimate Team Player, The Hartford, external team recognition

Continuous Improvement – Thought Partnership, The Hartford, external team recognition

Education

MS, Quantitative Economics (STEM), University of Connecticut, CT (Maj. GPA 3.95)

Certifications

AWS Certified Cloud Practitioner (In Progress)

Nanodegree, Data Scientist, Udacity (In Progress)

Certificate, SAFe Scrum Master (SSM - 92474883-9992), Scaled Agile

Nanodegree, Machine Learning, Udacity

Certificate, Natural Language Processing with Python, Udemy