P. Christopher J. Daigle

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Wethersfield CT, 06109, USA

Data scientist with experience ranging from industry and startups to academia • Leadership experience ranging from small team project management, running a startup, and lead pilot in Afghanistan responsible for operations and personnel • Master of Science in Quantitative Economics • Army Veteran

Key Skills

Technology: Python • R • Pandas • NumPy • SciKit-Learn • Seaborn • PyTorch • Keras & Tensorflow • Oracle SQL • Bash / Unix / Shell • Git & GitHub • MATLAB / Octave • Stata • LaTeX

Strategic: Algorithm Design • Iterative & Scalable Process Creation • Process Improvement • Public Speaking • Technical Writing • Team Leadership & Training • Project Management • Research Methodology

Quantitative: Artificial Neural Networks (ANN) • Classification • Deep Learning • Dimensionality Reduction • Estimation • Hypothesis Testing • K-Means • K Nearest Neighbors (KNN) • Limited Dependent Variable (LDV) • Linear Algebra • Linear & Logistic Regression • Machine Learning • Natural Language Processing (NLP) • Predictive Modeling • Statistical Analysis & Modeling • Supervised Learning • Support Vector Machine • Unsupervised Learning

Professional Experience

Pratt & Whitney – *Manager, Data Scientist*   Jan 19 – Pres.

- Received UTC's Innovation Award for developing and deploying software that informs supply chain professionals of the optimal allocation of 75,000+ distinct part number sold by 5,000+ vendors (Python, SQL, Pandas, NumPy, PyInstaller)
- Engineered and globally deployed software to mitigate the COVID-19 pandemic resulting in continued aviation operations across multiple continents – software reduces previous work that required 5 people over 1.5 months for a single vendor to one person for less than one minute for over 5,000 vendors (Python, SQL)
- Predicted and classified 90% of $16 billion worth of jet engine components with NLP (Python, NLTK, SciKit-Learn, SQL, Random Forest, AdaBoost, Bagging, Multinomial Naïve Bayes, TF-IDF)
- Classified 60% of $10 billion worth of misclassified jet engine components by identifying and mining sources of data and developing ETL procedures (Python, SQL, Qlik)
- Reveal aviation market competition advantages by employing quantitative analysis to inform strategy for Aftermarket Supply Chain in Commercial Engines

Boise Analytics – *Partner*   Dec 17 – Jan 19

- Determine markets for data analytics products, evangelize technologies to build client relationships, recruit talent, and manage projects to solve small and medium sized organizations' data problems
- Mentor data scientists and analysts on best statistical and data science practices to increase the company's capabilities for increasingly complex data, computational, and statistical problems

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

- Instruct Microeconomics and economic research methods to undergraduates

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

- Produce professional academic research for economic questions related to education and development in partnership with non-profit organizations and Yale University (Stata, Excel, Word, LaTeX, Google Earth)
- Instruct and tutor Econometrics, Intermediate Macroeconomics, and Algebra through Calculus to undergraduates

Veterans Affairs – *Work Study*   Apr 13 – May 14
AAI Corporation – *Lead Pilot F-227*   Oct 10 – Apr 13
US Army – *Sergeant / Drone Pilot*   Sep 04 – Oct 10

Education

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

MS Course Work: Applied Econometrics II, Python Programming, R Programming, Big Data, Convex Optimization with Python, Panel Data

PhD Course Work: Microeconomic Theory I & II, Macroeconomic Theory I & II, Econometrics I & II, Industrial Organization I, Advanced Mathematical Economics

BA, Honors degree, Economics with a Quantitative Emphasis; Minors: Mathematics & Applied Mathematics, Boise State University, ID (Cum. GPA 3.691)

Calculus I, II, & III, Differential Equations, Linear Algebra, Numerical Analysis, Probability & Statistics, Computational Mathematics

Honors: Econometrics, Money & Banking, Quantitative Methods, Senior Thesis

Certifications

Certificate, Natural Language Processing with Python, Udemy

NLTK, spaCy, VADER, Non-Negative Matrix Factorization (NMF), Word2Vec, Latent Dirichlet Allocation (LDiA), Long Short-Term Memory (LSTM), QA Chat Bot, Generative Text

Nanodegree, Machine Learning – Introduction, Udacity

Linear Regression, Perceptron Algorithm, Decision Trees, Naïve Bayes, Support Vector Machines (SVM), Ensemble Methods, Model Evaluation Metrics, Gradient Descent, Neural Networks, PyTorch, Clustering, Gaussian Mixture Models, Dimensionality Reduction

Projects / Products

Rebate Optimization *Software Development* (proprietary software)

Purpose: create an application to determine the optimal allocation of spending on vendors for jet engine components to maximize rebates

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

Award: Special Award for Innovation at Pratt & Whitney

Alternative Vendor Identification *Software Development* (proprietary software)

Purpose: create software to rapidly identify alternative vendors for jet engine component repairs; analyzes 5,000+ vendors and 75,000+ distinct parts

Technology: Python, NumPy, Pandas, Oracle SQL

Predicting Movements in Social Security Filings *Supervised Learning, Regression* tinyurl.com/predSS

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, Greedy Selection Methods (Backward, Forward, Sequential Replacement), Hypothesis Testing (Augmented Dickey-Fuller, Likelihood-Ratio Test)

Model: $logit(ChangeInSSretired) = ChangeInDJIadjClose + ChangeInRealSPopen + ChangeInRealSPadjClose + \varepsilon$ (pared down from 58 factors to a 10 factor model to a restricted 3 factor model)

Performance: 93% Accuracy; 92% F1-Score

Find Donors for Charity *Supervised Learning, Classification* tinyurl.com/predDonor

Purpose: construct a model to predict whether a person makes more than $50,000 annually

Technology: Python, Jupyter Notebooks, Scikit-Learn, Pandas, NumPy, Seaborn

Machine Learning: Ensemble Methods (ADABoost, Random Forest), Logistic Regression, Naïve Bayes, Grid Search,

Performance: 86.5% Accuracy, 76.5% F-0.2 Score

Identify Customer Segments *Unsupervised Learning, Clustering* tinyurl.com/KmeansCust

Purpose: segment customers for Arvato Financial Services to optimize customer outreach through mailings

Technology: Python, NumPy, Pandas, Seaborn, SciKit-Learn,

Machine Learning: K-Means, Principle Component Analysis, Feature Scaling, Imputation

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

Purpose: create an application that can be trained on any set of labeled images

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

Machine Learning: Transfer Learning (VGG11), Dropout, Rectified Linear Unit (ReLU),