Christopher Daigle

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Data Science leader specializing in Natural Language Processing and Generative Artificial Intelligence • Army Veteran • Helping teams realize their best work and expanding organizational capabilities

Technical Skills

Technology: AWS • Python • SQL • Git & GitHub • Bash / Unix / Shell • Pandas • NumPy • SciKit-Learn & StatsModels • HuggingFace • SpaCy • PyTorch • NLTK • Gensim

Quantitative: Foundation Models / Transfer Learning • Natural Language Processing (NLP) • Machine Learning • Statistical Analysis & Predictive Modeling • Supervised & Unsupervised Learning

Professional Experience

The Hartford Financial Services Group, Inc. – *Director of Data Science* — Jul 20 – Pres.

Generative AI Factory - *Organization Lead* — Dec 23 – Pres.

- Responsible for creation and production of enterprise generative artificial intelligence (GenAI) assets
- Lead 7 direct-reports of data scientists, data engineers, product owners, prompt engineers, and machine learning engineers in the technical development of GenAI solutions
- Collaborate with business leaders over diverse domains ranging from c-level to front-line to identify and prioritize short and long-term opportunities among options like commercial solutions, customizations of foundation models, and from scratch solutions
- Inform and execute the vision for GenAI as a mix of a federated and centralized model at the enterprise level
- Evangelize and educate technical and non-technical audiences at the enterprise level on generative AI capabilities through speaking, publishing internal materials, and designing & conducting trainings

Artificial Intelligence Factory - *Director of Data Science* — May 22 – Dec 23

- Technical Lead for Generative AI and NLP responsible for strategy, and delivering solutions with small teams, evaluating vendors, training employees from senior leaders to individual contributors, and routinely communicating with the senior-leaders including the C-Suite and audiences > 100 people
- Developed conversational underwriter search (RAG) in <4-weeks by collaborating with ethics & legal to ensure compliance, leading a team of data scientists & prompt, data, and machine learning engineers (MLE)
- Developed and deployed sentiment analysis application in <1-week for investor communications (RoBERTa)
- Developed Topic Model (LDiA) to measure customer feedback leading to efficiencies in survey review process, targeted investment in training for claim representatives, and influence customer satisfaction
- Managed two data engineers, one data scientist, two interns, mentored data scientists, data and MLEs

Claims Data Science, Workers Compensation - *Senior Data Scientist* — Jul 20 – May 22

- Guided development of data science models resulting in improved performance of solutions and increased technical abilities for a team of data scientists over a suite of data science solutions
- Developed 4 and maintained 9 predictive models for Workers Compensation Data Science
- Managed one offshore data scientist, mentored 5 data scientists, and provided technical and non-technical training to over 100 scientists, engineers, product owners, and business customers
- Standardized data science practices around peer review, software engineering, version control, and Agile
- Created framework for MVP model creation reducing initial model build from 1-month to < 1-day

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

- Established the analytics department for Commercial Engines Aftermarket Supply Chain

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

- Responsible for 43 business-to-business relationships and lead 20 data scientists

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

Boise State University – *Economic Researcher, Teaching Assistant* — Jan 14 – May 16

AAI Corporation – *Senior Flight Crew/GS-15E, Lead Pilot, Instructor Pilot, Standards Pilot* — Oct 10 – Apr 13

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

Products & Portfolio

MLC Underwriter Conversational Search *Generative Artificial Intelligence* (proprietary solution)

Purpose: provide conversational responses answering questions from Middle and Large Commercial Underwriters
Outcome: reduction in time to finding the desired answer from an average of 10-minutes to 5-seconds
Machine Learning / Generative AI: retrieval augmented generation, sentence-embeddings, semantic search, conditional generation, FLAN-T5-XXL, quantization, LLM.int8()
Technology: SageMaker, GPU, Python, HuggingFace, sentence-transformers, fastertransformer, virtual environments, VSCode & Jupyter, GitHub

Voice of the Customer Topic Model (VOCT) *Natural Language Processing* (proprietary model)

Purpose: identify themes in high volume and high velocity customer survey response data
Outcome: reduced review time by 10x, increased reviewed surveys by 50x, ensured consistent interpretation of customer feedback, provided ability to measure trends in customer themes to drive investment for improving customer experience
Machine Learning: NonNegative Matrix Factorization (NMF), Latent Dirichlet Allocation (LDiA , LDA), collocation (PMI) n-grams, sentiment analysis, coherence, perplexity, count vectorization
Technology: AWS SageMaker, AWS S3, Python, bash, SnowFlake, Oracle SQL, Scikit-Learn, SpaCy, HuggingFace, Gensim, NLTK, TMToolkit, Top2Vec, Matplotlib, conda environments, VSCode & Jupyter, Git & GitHub

Workers Compensation Triage Suite *Data Science* (9 proprietary models and methodologies)

Purpose: identify claims that are most likely to be complex for claim handlers and nurses to manage (8 separate products)
Machine Learning: GLM (Logistic Regression, Gamma, Tweedie, OLS), Random Forest Regression & Classification, Decision Tree, GBM, 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 resulting in $29 million cost avoidance per-year
Technology: Python, NumPy, Pandas, Oracle SQL, PyInstaller

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

Purpose: identify jet engine commodities from purchase orders executed by global supply buyers
Outcome: Increased speed from 8-hours to instantaneous with improvement from 60% to 90% of $16 billion of commodities
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

Awards

TDAC – Visionary, The Hartford, awarded to top-2% employees and celebrates the innovative solution introduced by a team which showcases their ability to bring fresh ideas and drive transformative change, ultimately propelling our company forward

Special Award – Innovation Award, Pratt & Whitney, awarded to 5 of ~240,000 UTC employees annually

Claims Insight Board (2x) – The Hartford, Chief Executive Claims Officer for (1) invention of algorithm with broad and deep business impact; (2) NLP Model

Break Through – Helping Drive Innovation Across DS Teams, The Hartford, Global Speciality

Better The Experience (2x) – The Hartford, Workers Compensation & MLOps

Continuous Improvement (3x) – The Hartford, awarded by multiple executive of multiple organizations

Education

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

Certificate, SAFe Scrum Master (SSM - 92474883-9992; expired 2021), Scaled Agile