# Brandon Doey

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## Professional Summary

Accomplished and results-driven systems engineer with over 10 years of experience designing, building, and deploying scalable, end-to-end machine learning and business intelligence systems. Proven expertise in developing everything from high-throughput forecasting engines to next-generation agentic AI workflows using Large Language Models (LLMs). A strategic thinker and published researcher with a strong foundation in data engineering and software development, adept at translating cutting-edge academic research into robust, production-ready solutions that drive significant business impact and strategic decision-making.

## Core Competencies & Technical Skills

- **Languages:** Python, R, SQL, JavaScript, Go, Rust, Solidity
- **AI / ML Frameworks:** PyTorch, TensorFlow, Keras, Scikit-learn, XGBoost, NLP, BERT, SpaCy, NeuralProphet, Optuna, MLX, CUDA
- **Generative & Agentic AI:** LLM Fine-Tuning (Axolotl/Unsloth), Retrieval Augmented Generation (RAG), Agentic Architectures (PydanticAI/CrewAI), Hugging Face Transformers, Vector Databases (Chroma/Weaviate), Ollama, LangChain
- **MLOps & Business Intelligence:** Google Cloud Platform (GCP), VertexAI, BigQuery, Kubernetes, Docker, Apache Airflow, REST APIs, Teradata, MLflow, WandB, Jenkins CI/CD, Looker, Qlik Sense, Tableau

## Professional Experience

**Senior Manager - Data Science** | **Verizon** | *Aug 2024 – Present*

- Led the design and development of a novel multi-agent framework to automate wireless churn analysis and anomaly detection, reducing manual investigation time by 60% and enabling proactive retention strategies.
- Architected and implemented a self-optimizing wireless churn forecasting pipeline leveraging Optuna hyperparameter tuning and a customized NeuralProphet model, achieving 15% higher prediction accuracy and extending forecast horizons by 3 months.
- Designed an innovative XGBoost-Prophet hybrid ensemble model that increased churn prediction accuracy by 10% while reducing computational overhead by 25%.
- Led the end-to-end execution of A/B tests to validate model performance against core business KPIs, presenting findings to stakeholders to iterate on data-driven insights.

**Principal Data Engineer** | **Verizon** | *Jan 2021 – Aug 2024*

- Spearheaded the implementation of the first Qlik powered end-to-end data pipeline combining 120M+ records from 3 disparate systems, enabling product managers to track over $45B in annual revenue.
- Developed a Python-based application that automatically generated essential product hierarchy data, reducing turnaround time by 95% and facilitating accurate product revenue tracking.
- Engineered scalable JavaScript-based Google Apps Script connecting product delivery to revenue tracking, upholding Verizon's $130B revenue recognition pipeline.

**Systems Analysis & Programming Supervisor** | **Verizon** | *Mar 2017 – Jan 2021*

- Successfully integrated Verizon's Finance Corporate Systems organization into their new ServiceNow CMDB platform (15 teams, 150 users) enabling improved stakeholder visibility by increasing ITIL process adoption and increasing customer satisfaction rates by 60%.
- Managed a diverse team of systems specialists that supported Verizon's internal ERP Portal infrastructure which incorporated both SAP ERP platforms and Oracle's PeopleSoft systems critical for finance operations.
- Implemented process improvements that resulted in 44% faster average resolution time on critical system issues affecting the Verizon Finance and Accounting organizations.

**Lead Systems Analyst | Aon** | *Jan 2015 – Mar 2017*

- Translated complex business requirements into technical specifications for a new benefits administration platform serving over 150,000 employees.
- Collaborated with cross-functional teams to design and implement robust data validation and processing workflows, ensuring high data integrity for downstream analytical processes.
- Led the design and delivery of technical training programs, creating thorough documentation to ensure a seamless transition and high proficiency with new systems.

**Systems Analyst | Aon** | *Apr 2012 – Jan 2015*

- Served as a Subject Matter Expert (SME) on Aon's proprietary web portal, analyzing and debugging complex system issues related to data processing and business logic.
- Conducted comprehensive QA testing and data validation to ensure system stability and functionality, preventing critical data-related production issues.

**Linux Server Analyst** | **HostDime Global Corp** | *Jul 2008 - Apr 2012*

- Deployed and managed a large fleet of CentOS Linux-based web servers, maintaining 99.95% uptime for mission-critical client applications.
- Developed foundational experience in building and optimizing scalable compute infrastructure, a critical skill for deploying large-scale machine learning systems.

- Provided 24/7 on-call support, excelling in troubleshooting, debugging, and performance optimization in a high-stakes production environment.

## Education

MS, Finance Technology (FinTech) | University of Central Florida
- Concentration in AI/ML applications for FinTech innovation.

BS, Management Information Systems | University of Central Florida
- Concentration in database management, systems analysis, and project management.

## Publications

- **Doey, B.**, et al. (2025). "Linguistic complexity and gender in financial analysis: Evidence from earnings call questioning patterns." *Journal of Behavioral Finance*. (Link)
- **Doey, B.**, et al. (2025). "How negative tones in earnings calls shape media narratives." *Review of Behavioral Finance*. (Link)

## Key Projects | bdoey.github.io

- GENERATIVE AI (Link)
  - AI Enabled Financial Literacy Q&A System
  - LLM Powered Data Anomaly Detection App
  - AI Research Summarizer with LLM Feedback
- FINTECH APPS (Link)
  - BNPL Credit Worthiness App
  - DJIA Analysis using NLP and MACD
  - Trading Agent using Q-Learning
- DATA SCIENCE (Link)
  - Stock Market Prediction using LSTM
  - Churn Prediction using RF Classifier
  - Bankruptcy Prediction using Ensemble ML
- MACHINE LEARNING (Link)
  - Customer Segmentation using Clustering
  - Dropout Prediction Neural Network
  - Sentiment Analysis using LDA