

Kevin McCoy

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EDUCATION

Ph.D. in Statistics

Expected May 2027

Rice University — Houston, TX

GPA: 3.86/4.0

- National Science Foundation GRFP Fellow, Ken Kennedy Institute Graduate Recruiting Fellowship

B.S. in Biomedical Engineering

May 2022

Georgia Institute of Technology — Atlanta, GA

GPA: 3.97/4.0

- Biomedical Engineering Outstanding Senior Award, Sigma Xi Best Undergraduate Research Award

EXPERIENCE

Research Assistant

May 2023 – Present

Rice University — Houston, TX

- Engineered an **automated QA pipeline in Docker** to identify CT scan blood vessels with over **89% precision**, optimizing model execution to run **end-to-end in under 1 minute**.
- Built a high-performance **C++/R package** using robust software design, unit testing, and source control to enhance the accuracy and uncertainty quantification of Bayesian additive regression trees.
- Designed an ensemble meta-learner to **improve prediction by 16%** for grouped data and applied the novel method to predict the best treatments for rare types of sarcomas.
- Authored **8 high-impact publications** (including 2 first-author publications) with over **220 citations**.

Data Science Intern

May 2026 – July 2026

Hartford Steam Boiler Inspection and Insurance Company — Hartford, CT

- Engineered **location-scale-shape XGBoost** models to predict full probabilistic risk distributions for **100,000+ policyholders**, significantly enhancing cybersecurity risk stratification and loss forecasting.
- Executed **extreme tail-risk modeling** to calculate high-severity loss probabilities, isolate critical distributional feature drivers, and detect high-risk policy outliers for underwriting teams.
- Enhanced an **LLM feature-extraction pipeline** by integrating early-stage claim notes and scaling processing volume, driving earlier subrogation detection and faster legal referrals.

Data Science Mentor

August 2023 – December 2025

Rice University Data to Knowledge (D2K) Lab — Houston, TX

- Boosted the performance of state-of-the-art (SOTA) **vision transformers (ViTs)** by integrating novel architectural components from **large language models (LLMs)**.
- Improved contrastive and captioning losses up to **27.25%** while retaining overall model parameter size.

Research Fellow

May 2024 – August 2024

Oak Ridge Institute for Science and Education (ORISE) — Silver Spring, MD

- Characterized critical relationships between biosimilar product attributes and clinical outcomes using **logistic regression and hierarchical clustering** to reduce reliance on human trials.
- Successfully predicted the approval of new monoclonal antibodies in low-data scenarios (**n=7**) using **few-shot learning** techniques.

SKILLS

Languages: Python (PyTorch, PySpark, scikit-learn, pandas, Matplotlib), SQL, R, C++, MATLAB

Tools: Git, Azure Databricks, MLFlow, Linux, Docker, Parallel Computing, Tableau

Methods: Bayesian Statistics, Computer Vision, LLMs, NLP, Reinforcement Learning, Time Series