

Phil McDonough

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Highly adaptable and persistent problem solver with strong Python and R experience. Recent work focuses on AI development, including prompt engineering for large language models and training encoder-based ML models to extract structured insights from complex data.

Skills: Python, R, SQL

Certifications: PCEP—Certified Entry-Level Python Programmer, AWS Certified Cloud Practitioner

EDUCATION

MS in Analytics

May 2025

Institute for Advanced Analytics, NC State University, Raleigh, NC

BS in Computational Modeling and Data Analytics, Economics Focus, Mathematics Minor

May 2023

magna cum laude

Virginia Tech, Blacksburg, VA

EXPERIENCE

Axon

Remote

AI Research Intern

June 2025–Present

- Building an end-to-end proof-of-concept system exploring real-time audio escalation detection, demonstrating the viability of using keyword detection, NLU-based intent mapping, and LLM prompting modules.
- Implementing all pipeline components, including data collection and preparation, creation of an annotation guideline, module integration, and workflow evaluation.

Tempi Capital

Remote

Software Intern

June 2022–August 2022

- Conducted regular maintenance and updates of a Python-based API web scraper to retrieve real-time data from various cryptocurrency staking pools.
- Ensured the scraper provided accurate and reliable information to support analysis and decision making.

PROJECTS

Fifth Third Bank Practicum

Raleigh, NC

Tech Lead

August 2024–April 2025

- Analyzing an unstructured text dataset with 7 million bankers notes using FLAN-T5 LLM, Python, and Polars.
- Creating features using the LLM and NLP to cluster notes based on customer relationship health and product interest.
- Integrating note clusters with a pre-existing customer database to predict product adoption with boosting algorithms.

Elevance Health Capstone

Blacksburg, VA

Team Member

August 2022–December 2022

- Collaborated with the Individual Strategy and Analytics team to increase their understanding of market sizes in the US for the five main insurance types at the county level using Python for data collection and processing, and Tableau for dashboard visualizations.
- Executed a comprehensive 'Tools and Techniques' presentation, highlighting the array of aforementioned tools and techniques employed by our project team.

ANALYTICS PROJECTS

NFL Game Predictions Machine Learning Model

- Collected and processed NFL play-by-play data (2019-2024) using nfl-data-py and Pandas, aggregating key team statistics at the game level.
- Engineered predictive features, including rolling averages of offensive and defensive metrics, turnovers, penalties, special teams, and efficiency stats.
- Developed a random forest model with Scikit-learn to predict game outcomes, training on calculated feature differentials between competing teams.