John Hendricks

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LinkedIn: www.linkedin.com/in/john-hendricks123 | **GitHub**: https://github.com/j-hendricks
Portfolio: https://j-hendricks.github.io/Personal-Portfolio/

Successfully applying AI to healthcare both in academia and industry. Wrote paper applying AI predictions to nursing facilities, published by academic journal, Activity and Behavior Computing.

Technical Skills

Python, SQL, GCP, Git, AWS, PySpark, MongoDB, Excel, Scikit-learn, Pandas, Numpy, Keras, Tensorflow

Work Experience

Wellnecity

January 2023 - Present

Healthcare Business Analyst — Winston-Salem, NC

- Trained and tested Deep Neural Networks to detect episodes of care from claims data
    - Applied Tensorflow and Keras to build deep learning architectures
    - Improved model performance with hyper-parameter tuning of dense layers
    - Cleaned data and binned low-frequency categories with Python and Pandas
    - Communicated results to senior leadership, explaining meaning behind precision and recall
    - Queried claims data with SQL from GCP, preprocessed using Python
    - Researched workflow of LSTMs, proposed alternative models to leadership
- Wrote Python code to automate financial analysis of invoices
    - Wrote queries with PyMongo and MongoDB to extract medical data for invoice reconciliations
- Validated quality of new data feeds generated by Data Ops Team by writing SQL queries in GCP
- Wrote SQL queries and Excel functions to create presentation for Quarterly Business Review
    - Created waterfall chart highlighting that recent enrollment were key drivers in medical spend
    - Created line charts to highlight the acceleration of medical spend over the course of the year
    - Useds SQL and Excel to map out patient journey through episode of care

Projects

Predicting Nursing Care with K-Nearest Neighbors and Random Forest Algorithms

Repo: https://github.com/j-hendricks/Nurse-Activity-Recognition-Challenge-2022.git | Aug. 2022 — Co-Creator

- Predicts hourly behavior of nurses in healthcare facility based on previous behavior
- Wrote Abstract, Introduction, Related Works, and Dataset sections
- Accepted for publication by Activity and Behavior Computing (ABC)
- Researched and reported on state-of-the-art models in activity recognition
- Presented results to academic panel through Google Slides presentation
- Tools/Languages: Python, Pandas, Matplotlib, Jupyter Notebook

Diagnosis of Pulmonary Diseases via Computer Vision of Chest X-rays

Repo: https://github.com/j-hendricks/Chest-Xray-Disease-Classifier.git | Aug. 2023 — Creator

- Trained DenseNet architecture to identify pulmonary diseases from Chest X-rays
- Applied data augmentation strategies to improve model performance
- Plotted ROC curve using Matplotlib and Scikit-learn to measure model performance
- Programmed data generators to automate training, validation, and testing workflows

- Accounted for class imbalance of disease prevalence using weighted loss function
- Tools/Languages: Python, Tensorflow, Pandas, Matplotlib, Scikit-Learn, Jupyter Notebook

Education

University of Chicago — August 2023
Certificate in Artificial Intelligence and Machine Learning

University of North Carolina at Chapel Hill — November 2022
Certificate in Data Analytics

University of Virginia, Charlottesville, VA — May 2021
Chemistry, Bachelor of Science