Michael T Moran, Ph.D.

New York, NY 10001

248-885-3581 | mmoran0032@gmail.com | www.mmoran0032.com | mmoran0032 | in/mmoran0032

Work Experience

Data Scientist
October 2017 - PRESENT

GARTNER — *Stamford, CT*

- Built new search ranking package and model to improve search engine results (NDCG) and iteratively improved the model
- Improved client engagement by 5% by integrating a recommender system based on reading history into the search engine
- Wrote robust data processing and model training pipelines (SQL and Pandas) to support the recommender system and the search ranking model, and a post-training analysis framework to ensure the models were working sensibly
- Ran and analyzed A/B tests to ensure that changes to the models improved search KPIs (abandonment, engagement)

Data Science Fellow
June 2017 - September 2017

INSIGHT DATA SCIENCE — *New York, NY*

- Developed a probabilistic Python and PyMC3 model to predict MTA subway ridership changes resulting from station openings and closings, where ridership shifts among stations and lines, which can be used to inform the impact of future closures
- Explored forecasting subway demand and crowding using multiple time series methods (additive models, ARIMAX)
- Built an online Flask dashboard backed by Postgres to display model results

Research Assistant
January 2012 - May 2017

NUCLEAR SCIENCE LABORATORY, UNIVERSITY OF NOTRE DAME — *Notre Dame, IN*

- Led research group to measuring the first scientific results from a next-generation particle detector system
- Created analysis framework for research group to improve experimental analysis and allow for streamlined reproducible results

Lecturer, Python for Physicists
June 2015, 2016

UNIVERSITY OF NOTRE DAME — *Notre Dame, IN*

- Designed and led lectures during the summer as part of the undergraduate research exposure program, including brand new courses on data analysis, Monte Carlo methods, and other practical applications of Python for experimental uses
- Introduced standard scientific stack packages (Numpy, Scipy, Matplotlib) to students and focused on teaching best practices

Education

University of Notre Dame
Notre Dame, IN

PH.D. NUCLEAR ASTROPHYSICS — *November 2018*

University of Notre Dame
Notre Dame, IN

M.S PHYSICS — *August 2014*

Michigan State University, Lyman Briggs College
East Lansing, MI

B.S. ASTROPHYSICS, B.S. PHYSICS, MINOR: MATHEMATICS — *May 2011*

Skills

PROFICIENT:

Python, Numpy Pandas, Scikit-Learn, Jupyter, Matplotlib, Data Visualization, Communication

WORKING KNOWLEDGE

Dask, PyTorch, XGBoost, PySpark, PyMC3, Docker, SQL, AWS EC2, Search Ranking, Recommendations, Java, Flask