

CONTACT

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in nicholas-kinnaire-physicist

SUMMARY

Ph.D. physicist turned data scientist, with 7+ years of experience applying advanced statistical methods to large datasets.

SKILLS

PROGRAMMING

Python
C++
SQL
Bash
LaTeX

MACHINE LEARNING

Regression
Classification
Clustering
Natural language processing
Neural networks

TOOLS AND LIBRARIES

Git
NumPy
Pandas
Scikit-learn
Beautiful Soup
NLTK
Keras
TensorFlow
PostgreSQL

DATA VISUALIZATION

Matplotlib
Seaborn
Plotly

DATA ANALYSIS

Monte Carlo simulation
Fourier analysis
Iterative optimization

EXPERIENCE

Metis

Data Scientist

Chicago, IL

Jan. 2021 to Current

Metis is a 12-week immersive data science boot camp with a project-based curriculum and a focus on problem-solving, data-wrangling, statistical modeling, machine learning, and communication of results. Projects include:

- Predicted Covid-19 deaths per county with Lasso and Ridge regression models on web-scraped CDC and US Census Bureau data
- Identified conflicting classifications of genetic variants with a RandomForest classification model on a Kaggle dataset
- Modeled thematic topics of characters in a book series using natural language processing (NLP), dimensionality reduction, and unsupervised clustering
- Mapped out mangrove forest deforestation and growth with a convolutional neural network (CNN) classifier on Google Earth Engine satellite imagery

Boston University - Fermilab Muon g-2 Experiment

Batavia, IL

Postdoctoral Research Associate

Jan. 2020 to Dec. 2020

- Led a primary data analysis effort for publication of the highly anticipated 1st results of the Fermilab Muon g-2 experiment, extracted frequency from four large (TBs) datasets to high precision with non-linear regression models
- Determined statistical compatibility of analysis team results with Monte Carlo simulation and statistical modeling
- Contributed to technical publications and internal project documentation
- Advised graduate students in developing roles and responsibilities within the experiment

Research Assistant

Boston, MA

Aug. 2013 to Jan. 2020

- Developed 1st track fitting algorithm for the experiment utilizing chi-squared minimization and error propagation, which continues to provide vital telemetry and analysis data for the experiment today
- Designed software tools (C++, Bash) and utilized distributed computing resources (Open Science Grid) to process and analyze large datasets (TBs)
- Presented analysis results at many scientific conferences and internal collaboration meetings
- Dissertation: Muon Spin Precession Frequency Extraction and Decay Positron Track Fitting in Run 1 of the Fermilab Muon g-2 Experiment

EDUCATION

2013 to 2020

Boston University

Doctor of Philosophy (Ph.D.) Physics

Master of Arts (M.A.) Physics

2009 to 2013

The University of Texas at Austin

Bachelor of Science (B.S.) Physics

Bachelor of Science (B.S.) Mathematics