JENNIFER STISO

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SKILLS

Programming: Python (sklearn, pandas), R (tidyverse, shiny), SQL, Javascript
Fields: graph theory, machine learning, neuroscience, clinical bioinformatics, social science

EXPERIENCE

Data Scientist, Myriad Genetics *Feb 2023 - present*

- Constructed a proof of concept model and derived valuable insights to predict payment amount on the day of order receipt (less than 5% monthly average error). Implemented MLflow to track and document all model experiments, while also developing new features that were subsequently utilized by team members.
- Adapted insights presentations to cater to diverse audiences with varying levels of technical expertise, including accounting, billing, marketing, analytics, and technology leadership.
- Successfully managed full project lifecycle, collaborating closely with stakeholders to comprehend business challenges, generating comprehensive project documentation, identifying subject matter experts and data specialists, implementing agile methodologies (Jira) for task organization and progress monitoring.
- Conducted thorough review and evaluation of pull requests submitted by team members.
- Designed and implemented a robust clustering pipeline encompassing preprocessing, dimensionality reduction, clustering algorithms, and parameter experimentation. Integrated MLflow to effectively track and monitor performance for patients and marketing leads.

Data Scientist, Children's Hospital of Philadelphia *March 2022 - Jan 2023*

- Designed and deployed two new features to a dashboard that summarizes the environmental impact of anesthetics to clinical stakeholders, resulting in a 28% reduction in greenhouse gas emissions after dashboard deployment (R)
- Developed and evaluated a flexible pipeline for causal inference of medicine-based interventions for cardiac events (Python)
- Critically read and annotated 25 explainable AI papers as part of a structured review written by 4 team members
- Created, documented, and maintained a Postgres database of EHR data (>58,000 patients) that supported projects led by two different colleagues (SQL)
- Tested and recorded user demos for 2 decision support products, which were feature at the American Medical Informatics Association's AI showcase

Data Scientist, Univ. of Pennsylvania Bioengineering *Jan 2021 - March 2022*

- Lead developer on team with 2 other researchers to design and implement web based behavioral experiments completed by thousands of individuals using Amazon Mechanical Turk (AWS), JavaScript, SQL and Heroku
- Collaborated with the Perelman School of Medicine to quantify gender and racial bias in medical student evaluations (Python)
- Led development of Python software package with unit tests for network control theoretic analysis
- Developed agent-based network model of citation behaviors in the scientific community
- Designed and deployed suite of tools (Google Chrome Application and Gender Diversity Statement and Code Notebook) to reduce gender bias in scientific citations, which has garnered more than 500 users and an average reduction in user citation bias of 20%
- Authored > 20 research articles (5 first author), with > 500 citations over the past 2 years
- Led a team of 5-10 contributors to tools for citation transparency in the Organization for Human Brain Mapping Hackathon

PhD Candidate, Univ. of Pennsylvania Neuroscience *Aug 2017 - Jan 2021*

- Collaborated with 4 labs across 3 universities to develop a novel multi-modal, dynamic, graph model for identifying links between gene expression and brain activity (Python)
- With 2 technicians, designed and implemented experiment to probe human relational learning and applied information-theoretic learning algorithm to relational learning experiment (Javascript, SQL, Python)
- Developed a processing pipeline with custom quality checks for large publicly available dataset of neural EEG timeseries in over 300 individuals (.5Tb) with epilepsy (MATLAB)
- Used hypothesis tests (similar to A/B tests) to identify models that best fit neural data
- In collaboration with leading mathematician, successfully applied tools from graph theory, network control theory, and non-negative matrix factorization to model the spread of electrical stimulation and BCI control in the brain (R, Python, MATLAB)
- Authored $>$ 20 research articles (5 first author), with $>$ 500 citations over the past 2 years

Intern, Johns Hopkins Applied Physics Lab - Intelligent Systems Group *July 2020 - Oct 2020*

- Independently guided research project modeling activity spread in biological neural networks (Python)
- Contributed open-source Python code implementing common graph models in larger connectomics datasets (10^6 connections)
- Advised interns on writing, data visualization, research program investigating the impact of biological neural connection motifs on weight-agnostic artificial neural networks

Consultant for Medical Device Startup, Univ. of Pennsylvania *Aug 2019 - Jan 2020*

- Quantified early adoption market and execution strategy for small health-tech startup in the Philadelphia area that specializes in neurofeedback devices.

EDUCATION

University of Pennsylvania - PhD in Neuroscience *Jan 2021*
University of California at Berkeley - BA in Molecular Biology & Cognitive Science *Aug 2016*

SELECT INVITED TALKS AND PODCASTS (5/10)

Using open data in your data science workflow *Virtual. 2023*
Data Unchained Podcast.
Building Ethical AI Models in Healthcare. *Salt Lake City, UT. 2023*
BioBytes Talk Series.
Effects of Interictal Discharges on Functional Connectivity. *Philadelphia, PA. 2020*
Women in Data Science Conference.
Network Models of Brain Structure, Function, and Control. *Rome, Italy. 2019*
Organization for Human Brain Mapping: Data Science in Neuroscience Symposium.
Using Control Theory to Model Direct Electrical Brain Stimulation. *Paris, France. 2018*
Network Science: Networks in Big Data and Personalized Medicine Satellite.

LEADERSHIP AND TEACHING

Instructor for Advanced Methods in Graph Analysis, JHU Applied Physics Lab *2023*
Lectured and led code tutorial on network control theory
Guest Lecture Introduction to Data Science, UC Berkeley *2023*
Lectured and led discussion on Best Practices for Building Ethical Models
Co-Director of Graduate Led Initiatives and Activities, Univ. of Pennsylvania *2020*
Negotiated an increase in funds totaling 41% of initial budget ($8,000) from three separate funding sources within the University of Pennsylvania
Python Data Science Bootcamp *2019*
Designed and delivered one 3 hour lecture on the Pandas package, and one 1 hour lecture on machine

learning with the SciKit Learn package for graduate students attending the Python Data Science Bootcamp

Guest Lecture and Teaching Assistant, University of Pennsylvania *2018-2021*
led discussion section for 25 students in introductory neuroscience course; gave 3 graduate-level guest lectures on mathematical models of brain activity

RECENT AWARDS

Teammate Appreciation Award, Myriad Genetics *2023*
NGG APICAL Honorable Mention, University of Pennsylvania *2021*
program level award for leadership in outreach programs
Ruth L. Kirschstein National Research Service Award, University of Pennsylvania *2020*
national level PhD funding totaling $46,000