NathanSmith

Contact

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Github:
https://github.com/eluser81

Skills

Python (Proficient)
Libraries: Pandas, Tensorflow, Keras, sklearn, matplotlib, seaborn, django, spark API, numpy, scipy

Apache Spark (familiar)
SQL (familiar)
C++ (familiar)
CSS (familiar)

AWS (familiar),
Linux (Ubuntu, Kali Linux, Redhat)

Data Analysis
Algorithm Design
Data Architecture
Statistical Analysis
Pipeline Design
Data Mining
Microsoft Office
Latex

Career Objective

A self-motivated and an inspired team player, coming from a highly technical and scientific background who is looking for greater opportunities and growth in Data Science, Analytics, and Machine Learning.

Experience

2018 - Now **University of Dallas** Irving, Texas
Researcher and Algorithm Designer

- Designed and implemented algorithms in python to analyze data from the Kepler space telescope to produce image models of binary star systems. These models were then tested by their ability to recreate observed Kepler Data. Other tests such as Bayesian Information Criterion were used to determine the most probable model for the system. I Presented this research in the Fall of 2019 at the Texas APS Physics conference at Texas Tech. (See Github for code, written articles, and thesis for this project)
- Designed and implemented algorithms to filter atmospheric error from the DSOC telescope in West Texas, resulting in a 50 - 80% error reduction rate.
- Built data pipelines to cross-reference multiple star system catalogs and constructed a database of over five-hundred thousand stars matching desired characteristics. Used this data to acquire NASA grants during the Kepler Space Telescope K2 missions.

2015 - 2017 **Click Active Marketing** St. Louis, Missouri
Data and Content Manager

- Managed social media accounts for multiple clients. Researched markets and business to produce up-to-date and relevant content for customers.
- Wrote content for small business website relevant to their industry.
- Helped clients create solutions for organization and administration using various CRMs such as Salesforce and Hubspot.

2015 - 2016 **Joey B's Food and Drink** St. Louis, Missouri
Busser/Bar Back

- Assisted managers with setup and other various tasks upon location's grand opening.
- Worked as a team player in a fast paced environment to ensure processes ran smoothly.

Projects

2017 - Now **New Approaches to Time Series Data for Convolusional Neural Networks**
Independent

- Developing a neural network that uses financial indicators to produce a probability distribution of volatilities in the cryptocurrency market using Sklearn, Keras and TensorFlow libraries.
- Involves using Fourier transforms, Hilbert curves, and other mathematical methods to pipeline large datasets into learnable formats for convolutional neural networks

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2020 - Now **Quantum Algorithms and Quantum Computation - Independent Study**
Accredited by The University of Dallas

- The study explores the most recent approaches to quantum gate logic, quantum error correction, and quantum cryptography. The study also includes a capstone project using python packages such as Google's Cirq for quantum circuit design, optimization, and simulation.

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2019 - 2020 **Analysis of Medical Data for Heart Disease Detection**
Independent

- Cleaned and quantified non-numerical elements to prepare for exploratory data analysis.
- Implemented a variety of machine learning models, grid searched hyperparameters, and deployed a tuned neural network to predict the presence of heart disease. (See Github for jupyter notebooks)

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Education

2016 - 2020 **University of Dallas - Bachelors of Science, Physics** Irving, Texas
- Includes a study abroad semester in Rome where I was able to learn basic conversational Italian, and travel to 11 countries.
- Helped design the constitution for the University of Dallas Speech Debate Club.
- Served as Secretary for the Society of Physics Students.
- Worked as a physics tutor and teacher's assistant while taking 18 credit hours of classes.