RYAN WERTH
DATA ANALYST

Experience

Metis
Data Scientist — Sept. 2020 to Dec. 2020

Metis is an ACCET accredited 12-week immersive data science bootcamp focused on project oriented learning.

- The core curriculum is centered around Python, statistics, supervised and unsupervised machine learning, exploratory data analysis, databases, and visualization techniques.
- Completed five self-designed data science projects from conception to presentation; including data collection, data management, exploratory data analysis, modeling, and visualizations.
- See project section for more details.

Run It Once
Remote
Web Developer — Jan. 2019 to Sept. 2020

- Executed full-stack web development using the Django Web Framework
- Spearheaded a project adding the ability to sell e-books on the site, built out the pages, set up book purchase and download pipeline.
- Implemented a video recommendation system based on a user's viewing history

DraftBoard LLC
Remote
Projections Analyst — Feb. 2017 to Jan. 2019

- Built out Python Scripts to gather and aggregate player stats from an assortment or MLB, NBA, NHL, and NFL API's
- Created daily custom game projections using historical information, and matchup statistics

Research
California Polytechnic State University
Human Gaze Dynamics Analysis — Fall 2016 to Fall 2017

- Setup and ran a research project collecting data from 25 participants
- Analyzed the statistical structure of the visual scan path with MatLab
- Compiled research and findings into a paper for Senior Project

National Laboratory of Gran Sasso, Assergi, Italy
CUORE Experiment Particle Physics — Summer 2016

- Collaborated with professionals and post-doctoral students on a large-scale neutrino experiment
- Monitored and evaluated cleanroom radiation levels
- Assembled and repaired circuit boards used on the detectors

Projects

Object Detection to Automate Basketball Stats
- Trained a Convolutional Neural Network with over 1000 images to track a basketball and identify made baskets in a basketball broadcast
- Built features to extract real-time statistics for the teams and players using Python and OpenCV on top of the Neural Network
- *Tools used:* YOLOV3, OpenCV, Google Colab GPU

Music Playlist Creator
- Deployed Natural-Language-Processing and Topic Modelling to analyze and cluster the lyrics to over 50,000 classic rock songs
- Web-Scraped 40,000 individual web pages to gather the artists and lyrics, storing them in a Postgres database
- Created a Flask recommendation app to provide suggestions for similarly themed songs
- *Tools used*: Spacy, Python, SKLearn, Flask, Selenium, SQL

Who's Getting Vaccinated?
- Built a classification model to predict Seasonal and H1N1 Flu Vaccination from over 50,000 responses to a CDC phone survey
- Modeled how certain demographic characteristics are associated with personal vaccination patterns
- Visualized data with JavaScript's d3 in a Flask App
- *Tools used*: Python, d3, Flask, SKLearn

MLB Win Predictor
- Created a linear regression model to predict an MLB team's seasonal win total based on pure hitting and pitching statistics
- Ran model on the 2020 season to determine which teams benefitted from the uniquely shortened season.
- Built a Streamlit app to allow users to experiment with the model.
- *Tools used*: Python, Pandas, SKLearn, StreamLit

Contact

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ry-werth

Summary

Data Scientist, with a background in web development. Enjoy finding creative ways to use computers to solve problems.

Skills

LANGUAGES + LIBRARIES
Python
SQL
Scikit-learn
Pandas
Django
JavaScript
HTML
CSS
OpenCV

MATHEMATICS
Linear Algebra
Calculus
Partial Differential Equations

MACHINE LEARNING
Supervised and Unsupervised Learning
Linear regression
Logistic regression
Random Forest
KNN
K-Means
Natural Language Processing
Tree based methods
Convolutional Neural Networks

Education

California Polytechnic State University San Luis Obispo
B.S. Physics 2017