

# CRYSTAL HUANG

## DATA SCIENCE + ANALYTICS

### CONTACT

✉ crystalhuang.ds@gmail.com

🌐 www.crystaldatasy.com

☎ (917)698-5471

📍 Middletown, RI 02842

in crystal-huang-ds

🔗 crystal-ctrl

### EDUCATION

Rutgers University  
B.S. Exercise Physiology; Minor in Psychology  
2015

Western Suffolk BOCES  
Certificate Diagnostic Medical Sonography  
2018

### SKILLS

#### PROGRAMMING

Python

SQL

HTML

#### DATA VISUALIZATION

Tableau

Matplotlib

Seaborn

Plotly

#### MACHINE LEARNING

Regression

Classification

Topic Modeling

Natural Language Processing

Convolutional Neural Networks

#### PACKAGES

Numpy

Pandas

Scikit-Learn

Tensorflow

Keras

NLTK

OpenCV

Spark

Statsmodels

#### TOOLS + DATA

Git/GitHub

Excel

PowerPoint

MongoDB

### EXPERIENCE

#### BUTTER WORKS · Remote

**Data Science Consultant Freelancer** · Sept. 2021 to Current

Collaborate with other freelancers in data acquisition and preprocessing for development of video content analysis on social media platforms

#### METIS · Remote

**Data Science Teaching Assistant** · Aug. 2021 to Current

- Provides individual instruction in data analytics in Python, machine learning, deep learning, NLP, SQL, and more
- Debugs student code, builds student presentation skills, organizes Zoom rooms for effective pedagogy

#### Data Science + Machine Learning · Mar. 2021 to July 2021

- Completed an intensive 14-week ACCET-accredited full-time immersive with a project-based curriculum focused on Python programming, data visualization, database querying and management, machine learning, and deep learning.
- Delivered high-value data analytics projects with clear storytelling and creative presentations. See project section.

#### TRIDENTCARE · Virginia Beach, VA

**Lead Radiology Technologist/Sonographer** · Aug. 2020 to Jan. 2021

- Coordinated field operation and incorporate a good understanding of healthcare operation to increase workflow efficiency and achieve customer satisfaction
- Designed feedback report that increased staff compliance with new COVID guidelines
- Developed and Organized spreadsheets to solve operational problems and improve communication among staff

#### Sonographer/Echocardiographer · Aug. 2018 to Aug. 2020

- Operated and examined sonograms and echocardiograms for medical diagnosis independently and collaboratively in a fast-paced and demanding environment
- Presented findings, insights, and diagnostic results to medical partners for implementing treatment plans
- Excelled in field operations and achieved 90% production rate consistently

### PROJECTS

#### Face Mask Detection Using Deep Learning and Computer Vision

- Created binary and multi-class image classification models classifying faces mask status using convolutional neural network
- Trained and optimized the model using 12k images on Google Cloud Platform
- Used OpenCV and Haar Cascade Classifier as face detector and applied mask detector on the faces detected on images showing an accuracy score of 0.99

#### Building an End-to-End Pipeline with Real-Time Virginia COVID-19 Data

- Developed an end-to-end data pipeline with automated data extraction and update via cron
- Created interactive Plotly Dash Dashboard and deployed on Heroku
- Implemented SQL database for accessible querying on the backend

#### Discovering COVID-19 Research Articles with NLP and ML Topic Modeling

- Leveraged NLTK, SpaCy, langdetect and Gensim for text processing on 260k research article abstracts
- Built LDA model to discover topics of research articles and created data visualization with pyLDAvis

#### Predicting Kickstarter Campaign Success with ML Classification

- Built and scored a total of 9 models with a final XGBoost model with 80% F1 score
- Created meaningful data visualizations with SHAP for feature importance

#### Identifying NYC Restaurant Health Code Violation with 311 Call Rodent Sighting

- Created a well-scoped project proposal and preliminary data analysis to present to NYC Department of Health, identifying ratty-kitchen hotspots for possible restaurant health code violation by better understanding rodent sighting pattern in various neighborhoods in NYC
- Implementation of SQL database for storage and ingested data into Excel for data manipulation and organization with use of VLOOKUP and pivot tables
- Built an interactive Tableau maps and dashboard