MAX GARBER

DATA SCIENTIST

Experience

Metis
Chicago, IL

Data Scientist

Completed an immersive 12-week accredited data science bootcamp with a focus on developing skills in Python, machine learning, statistical modeling, and data communication.

Wyatt Aerosol Systems
Santa Barbara, CA
2013 to 2017

Physics Engineer

- Development of an instrument for aerosol particle characterization
- Designed and assembled the mechanical, optical, and electrical systems a prototype instrument
- Programmed the instrument run and collect data
- Developed the pipeline in IGOR to take the raw data from the instrument and determine the particles properties taking into account the hardware limitations and the physics of the system

University of California Santa Barbara
Santa Barbara, CA

Research Assistant to Elizabeth Gwinn

- Measured the fluorescence of DNA bound to silver nanoclusters

Research Assistant to David Weld

- Engineered system to wind magnetic coils for a high amperage water-cooled electromagnet used in a magneto-optical trap
- Modeled the magnetic fields from current loops of the electromagnet using Mathematica

Projects

Custom PC recommender

- Developed a recommender system for custom PC-builds using data scraped from PcPartPicker.com
- Built a PC-build autoencoder using Keras
- Created a Flask web app for the recommender

Reddit Discussions of TV episodes

Analysis of Reddit post via Natural Language Processing

- Created a Mongo database from Reddit, The Movie Database, and Rotten Tomatoes
- Cleaning, Tokenization, POS tagging, Stopwords, Stemming, Count Vectorizer, TF-IDF
- Topic modeling using Latent Semantic Analysis and Sentiment analysis using VADER

Covid - 19 Risk Factors

Classification of Covid-19 mortality in Mexico

- Created an SQL database on AWS with Mexican Health Department Covid-19 records
- Developed a logistic regression classification model for the survival of people with Covid-19
- Created a Flask web app where you can calculate survival rate given pre-existing conditions
- Built Tableau story with my results

Board Game Ratings

- Scraped features and scores of board games from BoardGameGeek.com
- Models the relationship between board games features and their scores with a linear regression model

Deepfake Detection Challenge

- Kaggle Competition finished top 8%
- Developed video deepfake classification in Keras with an Xception model into a CNN-LSTM

Understanding Clouds from Satellite Images

- Kaggle Competition finished top 9%
- Image segmentation of clouds from satellite Images in Keras using an ensemble of ResNet U-Nets and EfficientNet U-Nets

Generative Dog Images

- Kaggle Competition finished top 21%
- Developed a GAN from scratch to generate images of dogs in Keras

Contact

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Skills

PROGRAMMING TOOLS: Python, Git, GitHub, PostgreSQL, MongoDB, Ruby, React, HTML, JavaScript, CSS, C#, C

PYTHON PACKAGES: Keras, TensorFlow, scikit-learn, NumPy, Pandas, BeautifulSoup, Selenium, NLTK, OpenCV

MACHINE LEARNING ALGORITHMS: Regression, Classification, Clustering, Dimensionality Reduction, Natural Language Processing, Recommenders, Deep Learning, Neural Networks, Convolutional Neural Network

VISUALIZATION: Matplotlib, Seaborn, Tableau

OTHER: Mathematica, IGOR Pro, SolidWorks, Autodesk Inventor, LATEX

Education

University of California Santa Barbara
2009 to 2013

Bachelor of Science Physics

Coursera

Deep Learning Specialization 2019

Five course specialization covering Convolutional Neural Networks, Sequence Models, hyperparameter tuning, regularization and optimization, structuring projects, etc.

Coursera

Machine Learning

This course provides a broad introduction to machine learning, datamining, and statistical pattern recognition

The Odin Project

Open source coding curriculum where you learn everything you need to know to become a web developer