STEPHAN HERMANIDES

CONTACT

shermanides@outlook.com
+1 (331) 229-6618
Chicago, IL, 60657
n/shermanides
S-Hermanides

EDUCATION

Delft University of Technology · 2001 to 2009
B.S.E. Applied Earth Science 2007
M.S.E. Management of Technology 2009

SKILLS

LANGUAGES: Dutch, English, German, Spanish, French
PROGRAMMING LANGUAGES: Python, Excel VBA, SQL
LIBRARIES: SKLearn, Statsmodels, Pandas, Numpy, Matplotlib, Seaborn, SQLAlchemy, BeatifulSoup, Selenium, Scipy, OpenCV
MODELS / ALGORITHMS: Linear Regression, Lasso / Ridge Regularization, K Nearest Neighbors, Logistic Regression, Decision Trees, Random Forest, Naive Bayes, Neural Networks
DATABASES & CLOUD: Postgresql, MongoDB, AWS EC2, DBeaver
DATA VISUALIZATION: Tableau, PowerBI

PROJECTS

Predicting Field Hockey Win Percentage

Using linear regression to outperform the Pythagorean Expectation statistic in predicting NCAA Division I field hockey win percentages. I scraped data using Selenium and BeautifulSoup and used it to train a regression model with SciKit-Learn. Some tuning of regularization parameters and feature engineering helped me beat the existing statistic by 3% of R2.

Improving student pass/fail ratio for online university

Using data visualization and classification algorithms to identify students at risk of failing a class on an online platform to direct interventions aimed at increasing the pass/fail rate. I set up my data in Postgresql on AWS and used SQL queries to get it in a shape suitable for classification. I also used Tableau to create dashboards pulling from the same database. My final model was an ensemble of logistic regression and random forest, optimized for F1 score.

My Computer Reads 'The Wheel of Time'

A Natural Language Processing (NLP) project performing topic modeling, sentiment analysis and character arc analysis on the book series 'The Wheel of Time'. I used Python with BeautifulSoup to extract the eBook and processed the text using SciKit-Learn, NLTK and Gensim. My final topic modeling was done with a TF-IDF vectorized matrix and an NMF model. It resulted in a visual representation of the 12 main character arcs in the series and a comparison to human generated chapter summaries with an accuracy of 86%.

Field Hockey Player Tracker

A Computer Vision project tracking field hockey players from video. The project involved detecting players using a convolutional neural net in Tensorflow, tracking them across frames with the Deep Sort algorithm, sorting them with color detection on the jerseys and displaying player location using OpenCV on a 2-D representation of the field.

EXPERIENCE

Metis

Data Scientist
Chicago, IL - 2020 to Current

- Participated in Full Time bootcamp
- Hands-on project based training on Data Science concepts, algorithms and software
- Introduced to common software, libraries, and data visualization and presentation techniques

BP

Refinery Asset Economist
Chicago, IL - 2019 to 2020

- Used and maintained an economic refinery model to optimize refinery crude and feedstock purchases, product sales and refinery operations
- Provided decision making support to traders, supply chain coordinators and refinery schedulers
- Mentored more junior asset economists and analysts
- Implemented a new modeling software and associated tools at the refinery

Senior Engineer Refinery Planning
Chicago, IL - 2018 to 2019

- Supported development of new refinery modeling technology, software and work processes to improve commercial decision making across BP worldwide
- Developed and implemented work processes around the new technology for a refinery in Washington, US.
- Introduced PowerBI to replace legacy reporting and analysis tools to increase efficiency and improve analytical capabilities

Commercial Performance Analyst
Whiting, IN - 2015 to 2018

- Supported commercial modeling of one of the largest oil refineries in the US using Linear Programming (LP) analysis
- Provided model assurance through KPI's and retro-active analysis to calculate decision making impacts and opportunity costs
- Designed and implemented a new work process for short-term modeling and decision making around refinery optimization
- Improved analytical tools used for short- and mid-term planning by the refinery commercial team.

Market Analyst
Naperville, IL - 2013 to 2015

- Modeled and analyzed long term oil, gas, fuel and petrochemical markets worldwide to inform business and segment strategy efforts
- Market research, supply and demand modeling and long term technical trend analysis
- Projects included analysis on North American light ends market fundamentals, North American diluent balance, impact of a new global marine fuel oil standard on shippers and oil refineries and a Gulf of Mexico crude oil market fundamentals study.

Asset Portfolio Manager
Zug, Switzerland - 2011 to 2013

- Managed Real Estate projects such as new construction, remodeling and sales and acquisitions for gas stations in Switzerland
- Successfully completed the largest acquisition of retail sites in over 10 years in the country
- Responsibilities included economic modeling, internal approvals, negotiation, liaison with legal team and managing a budget of $440,000

Project Manager
Gelsenkirchen, Germany - 2010 to 2011

- Supported an efficiency project for one of the largest oil refineries in Germany, with the goal of achieving a cost reduction of €500 Million versus the initial baseline
- Responsibilities included team administration, refinery wide communication, project management for efficiency projects and coaching subject matter experts in continuous process improvements