HSU-SHENG (JOHNSON) KO

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EDUCATION

Columbia University New York, NY
Master of Science, Operations Research Expected Dec 2022

- Relevant course work: Optimization, Probability & Statistics, Machine Learning, Stochastic Models, Supply Chain Analytics, Transportation & Logistics Analytics, Data Analytics, Applications in Financial Engineering, Sports Analytics.

University of Washington Seattle, WA
Bachelor of Science, Mechanical Engineering Mar 2018

- Relevant course work: Manufacturing Technologies, JavaScript, Scientific Computing.

WORK EXPERIENCE

Terex Aerial Work Platforms (Genie) Redmond, WA
Design Engineer May 2018 - Apr 2020

- Responsible for validation and implementation of over 500 newly-sourced steel, hydraulic, and electrical components covering 3 major product lines, contributing to the realization upwards of $4M in cost savings.
- Managed project timelines across 5 facilities as the Global Pump Validation Lead and minimized duplication of work and unnecessary allocation of resources, thereby implementing new products ahead of schedule and resulting in an additional upwards of $100K in cost savings.
- Designed model to predict price of new parts using several disparate data sets across engineering and global supply chain, increasing price prediction accuracy from 70% to 94%.
- Created an automated machine weight data entry, cleaning, analysis, and storage pipeline based on customer feedback, ensuring quality of assembled machines and serial label information, and improving brand perception.
- Developed and implemented a web-based tool (Flask) that queries BOM data directly from ERP and presents differences in a user-friendly and exportable format, cutting down task time by 100%.
- Created Python scripts to automate SQL queries, report generation, and file transfers to reduce SG&A.

UWashington Formula Motorsports Seattle, WA
Drivetrain Lead Sep 2016 - Mar 2018

- Managed a 6-member team and project timelines, with a 3rd place overall finish at national competition.
- Executed top-level design decisions around the electric drivetrain system such as packaging, and manufacturing.
- Justified optimal gear reduction of the car based on simulation results of the competition drive course.
- Established sponsor relations with local businesses and received over $10K in value of services and donations.

RELEVANT PROJECTS

Non-Fungible Token Analysis and Price Prediction
Course Project Dec 2021

- Compiled NFT (Cryptopunks) attribute, transaction, and market data from disparate data sources.
- Utilized KNN to group similar tokens together, thereby determining the inherent price and rarity of clusters.
- Fitted a logistics regression model to predict whether specific clusters will increase in price in the future.

Exploration of Electronic Bass Music Genres
Personal Project Mar 2020

- Created an animated bar graph visualizing the number of upvotes users gave to different artists on the r/Trap Subreddit through time.
- Scraped five popular music-discovering channels on YouTube for music in the Trap and Dubstep genres.
- Connected Spotify's audio features data to tracks that could be found in Spotify's library.
- Constructed and hosted an interactive dashboard through Plotly-Dash with a PostgreSQL backend where one can compare tracks of different artists and discover similar tracks.

SKILLS & CERTIFICATIONS

Data Analytics. Python (Numpy, Matplotlib, Pandas, Sklearn, Flask, Plotly-Dash), SQL, Matlab, JavaScript, HTML, CSS.
Mechanical Design Solidworks, NX, Cura, NCEES Engineer in Training, NIMS Machining Level 1.