HSU-SHENG (JOHNSON) KO

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WORK EXPERIENCE

ASML Wilton, CT
Production Engineering Data Analyst Intern Jul 2022 - Sep 2022

- Conducted over 100 hours of time studies and established new baseline for labor hours across 3 work centers to support future capacity planning and move rate targets.
- Identified over 20 process improvement opportunities and procedural errors, contributing to annual cycle and labor time reduction goals.
- Implemented new compilation process of 2148-image datasets using MatLab to assist with defect inspection and reduced total cycle time by over 50%.
- Assisted Production Engineers with ad-hoc data analyses to support decision making.

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

- Designed a Random Forest model to predict price of new parts using several disparate data sets across engineering and global supply chain, boosting price prediction accuracy from 70% to 94%.
- Created an automated machine weight data entry, cleaning, analysis, and storage pipeline, ensuring quality of assembled machines while eliminating 15 minutes of cycle time per machine.
- Developed and implemented a web-based tool (Flask) to query BOM data directly from ERP and present differences in a user-friendly and exportable format, cutting down task time by almost 100%.
- Created Python scripts to automate SQL queries, report generation, and file transfers to reduce SG&A.

RELEVANT PROJECTS

NYPD Dispatch Simulation Model
Course Project May 2022

- Constructed a discrete event simulation model of NYPD dispatch using historical crime and response data, providing means to analyze efficiency of current system.
- Optimized number of vehicles needed per precinct based on response time.
- Proposed different working and back-up policies across precincts to further decrease response time to emergency calls by 69% without increasing number of vehicles.

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

- Data-mined NFT collection (Cryptopunks) attributes, transaction, and market data from disparate data sources.
- Utilized KNN to group similar tokens together, thereby determining the inherent price and rarity of clusters.
- Constructed a logistic regression model to predict whether specific clusters will increase in price in the future.

EDUCATION

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

- Relevant course work: Optimization, Simulation, Probability & Statistics, Machine Learning, Stochastic Models, Data Analytics, Transportation & Logistics, Supply Chain, Business Analytics (in progress), Deep Learning (in progress).

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

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

SKILLS & CERTIFICATIONS

Data Analytics: Python (NumPy, Matplotlib, Pandas, Sklearn, CvxPy. SimPy, Flask, Plotly), SQL, MatLab, JavaScript, HTML, Spotfire.
Mechanical Design: Solidworks, NX, Cura, 3D printing, NCEES Engineer in Training, NIMS Machining Level 1.