HSU-SHENG (JOHNSON) KO

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PROFESSIONAL EXPERIENCE

ASML Wilton, CT

Business Engineer, Analyst Jan 2023 - Present

- Cemented process mining competency within the factory as the sole specialist and built Celonis reports tracking performance trends of key business processes across manufacturing, logistics, and finance sectors, which impacted top-level KPIs such as decreasing process cycle time by 30% and increasing adherence by 50%.
- Developed and maintained capacity models for manufacturing processes to inform data-driven decision-making in production planning and capital expenditure investments by enabling scenario plays and what-if analyses.
- Developed and implemented a standardized process for consolidating and reporting sensitive factory-wide inventory data, ensuring regulatory compliance (SOX), and reducing manual query and document creation time by over 90%.
- Partnered with senior leadership and cross-functional teams to define technical requirements and scope for analytics projects, ensuring alignment with business objectives.

Production Engineering Data Analyst Intern Jun 2022 - Sep 2022

- Conducted over 100 hours of time studies and provided new baselines for labor hours across 3 work centers to drive future capacity planning and move rate targets while identifying over 20 process improvement opportunities and procedural errors
- Established methodology, structure, and reporting to ensure data consistency between auditors and for future time studies.
- Implemented new compilation process of 2148-image datasets using MatLab to assist with defect inspection and reduced total cycle time by over 50%.

Terex Aerial Work Platforms (Genie) Redmond, WA

Data Analyst/Design Engineer May 2018 - Apr 2020

- Constructed a steel component pricing Random Forest model using several disparate data sets across engineering and global supply chain, boosting price prediction accuracy from 70% to 94%.
- Designed 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.
- Wrote 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 the 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 the number of vehicles.

EDUCATION

Columbia University New York, NY

Master of Science, Operations Research Dec 2022

- Relevant coursework: Probability & Statistics, Optimization, Stochastic Models, Simulation, Machine Learning, Deep Learning, Data Analytics, Transportation & Logistics Analytics, Supply Chain Analytics, Sports Analytics, Analytics on the Cloud.

University of Washington Seattle, WA

Bachelor of Science, Mechanical Engineering Mar 2018

- Relevant coursework: JavaScript, Scientific Computing, Manufacturing Technologies.
- Extra-curricular: Formula SAE Drivetrain Team Lead

SKILLS & TOOLS

Data Analytics & Engineering: Python (NumPy, Matplotlib, Pandas, Sklearn, Tensorflow), MatLab, SQL.
Business Intelligence Reporting & Dashboarding: Spotfire, Celonis, Disco (Process Mining).
Optimization & Simulation: CvxPy, Gurobi, SimPy.