Hsu-Sheng (Johnson) Ko

Greater Seattle Area

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SKILLS & CERTIFICATIONS

Programming: Python, SQL, Matlab, Java, HTML, CSS || **Data Analysis & Visualization:** Matplotlib, Pandas, Sklearn, Flask, Plotly-Dash || **CAD/CAM:** Solidworks, NX, Cura || **FEA/Simulation:** ANSYS, KULI || **Languages:** English, Mandarin || **Certifications:** NCEES Engineer in Training, NIMS Machining Level 1

EDUCATION

University of Washington
Graduated March '18; Seattle, WA

Bachelor of Science, Mechanical Engineering

Seattle Central College
September '20 - March '21; Seattle, WA

Computer & Information Sciences

EXPERIENCE

Terex Aerial Work Platforms (Genie) - Design Engineer
May '18 - April '20; Redmond, WA

Strategic Sourcing Initiative

- Validation and implementation of over 500 newly-sourced steel, hydraulic, and electrical components covering 3 major product lines, contributing to the realization of ~$4M in cost savings.
- Managed project timelines across 5 facilities and minimized duplication of work and unnecessary allocation of resources, thereby implementing new products ahead of schedule with an additional of ~$100K in cost savings.
- Supported implementation of lean business practices through production life cycle and supply chain.

Data Analytics & Process Improvements

- Designed model to predict price of new parts using several disparate data sets across engineering and global supply chain, increasing accuracy from 70% to 94%.
- Created an automated machine weight data 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, reducing task time by 100%.
- Created Python scripts to automate SQL queries, report generation, and file transfers to reduce SG&A.

UWashington Formula Motorsports - Drivetrain Lead
September '16 - March '18; Seattle, WA

- 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.

Daimler Trucks North America - Mechanical Engineering Intern
July - October '17; Portland, OR

- Designed prototypes of engine cooling package components while minimizing weight and cost added to assembly.
- Constructed engine cooling package simulation model using KULI and validated results using on-road driving data.

PROJECTS

FSAE Composite Battery Box - Capstone

- Wrote a MatLab script that utilizes Classical Laminate Theory to predict laminate and sandwich panel deflection under 3-point bending to within 10% of testing results, streamlining design and reducing material consumption.
- Conducted tests to prove structural equivalency of the box while decreasing overall weight by 13% from previous aluminium design.

Music Data Analysis

- Created an animated bar chart, visualizing the total number of votes/likes artists gained over an 8 year period on an online music forum.
- Constructing an interactive dashboard to visualize Spotify audio features data and similar tracks through PCA and K-Means clustering.