Hsu-Sheng (Johnson) Ko

Greater Seattle Area

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SKILLS & CERTIFICATIONS

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

EDUCATION

University of Washington
March '18 Seattle, WA

Bachelor of Science, Mechanical Engineering

Shoreline Community College
September '16 Shoreline, WA

Advanced Manufacturing Technology

EXPERIENCE

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

Strategic Sourcing Initiative

- Lead engineer responsible for the 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.
- Took initiative to manage 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 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 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, reducing task time by 100%.
- Created Python scripts to automate SQL queries, report generation, and file transfers to reduce SG&A.

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

- Designed prototypes of 3 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.

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 purchasing, 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.
- Redesigned and manufactured eCar motor mounts and gearbox mounts to improve packaging, and serviceability.

RELEVANT 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 o 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.

3D-Printed LED Wearables

- Designed wearables with 3D printed enclosures, programmed LED light patterns, and rechargeable LiPos.
- Sold a design for $80 after posting on social media and gaining public interest.