Hsu-Sheng (Johnson) Ko

Greater Seattle Area

jko.mech@gmail.com
206 399 8021
Portfolio: jko0401.github.io/
linkedin.com/in/johnsonkoUW

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 upwards 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 upwards 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.