

Hsu-Sheng (Johnson) Ko

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Education

B.S. Mechanical Engineering

Graduated March '18

College of Engineering, University of Washington, Seattle

FSAE Composite Battery Box - Capstone Project

- Wrote a MatLab script that utilizes Classical Laminate Theory to predict laminate and sandwich panel deflection under 3-point bend loading to within 10% of testing results
- Conducted tests to prove structural equivalency of the box while decreasing overall weight by 13% from previous aluminium design
- Received \$10K in donations from Boeing to the UWFSAE team after completion

Work Experience

Terex Aerial Work Platforms (Genie) - Design Engineer

May '18 - April '20; Redmond, WA

Strategic Sourcing Initiative

- Lead engineer of the validation and implementation of over 500 newly-sourced steel and hydraulic components covering three major product lines
- Facilitated collaboration by managing project timelines across 5 facilities as the Global Pump Validation Lead
- Experienced in the complete production life cycle and supply chain of a lean manufacturing business

Data Analytics

- Analyzed an 80K-row dataset of quotes of steel parts and predicted price of new parts with 90% of confidence
- Built and maintained an automated machine weight data entry, cleaning, analysis, and storage pipeline, ensuring quality of assembled machines and serial label information
- Built a web-based tool that queries BOM data directly from the ERP database, and presents their differences in a user-friendly and exportable format
- Created Python scripts to automate SQL queries, report generation, and file transfers

Daimler Trucks North America - Mechanical Engineering Intern

July '17 - October '17; Portland, OR

- Designed early-stage concepts for three projects within the Engine Cooling Team focusing on weight and cost savings
- Conducted engine cooling package modeling through test data and KULI, a thermodynamics simulation software

Extra-Curricular

UWashington Formula Motorsports - Drivetrain Lead

September '16 - March '18; Seattle, WA

Team 29

- Managed 6 members and their respective projects, including the development of a planetary gearbox and an in-hub gearbox
- Made all top-level design decisions around the electric drivetrain system such as purchasing, packaging, and manufacturing
- Analyzed data to validate design choices and correlate simulations to physical test results
- Established sponsor relations with local businesses and received over \$10K in value of services and donations

Team 28

- Redesigned and manufactured eCar motor mounts and gearbox mounts to improve power transfer, packaging, and serviceability

Skills

CAD/CAM: Solidworks, NX, Cura, HSMWorks

FEA/Simulation: KULI, ANSYS

Data Analysis & Visualization: Python, SQL, Matplotlib, Pandas, Sklearn, Flask, Plotly-Dash

Languages: English, Mandarin