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, hydraulic, and electrical components covering three major product lines
• Facilitated collaboration by managing project timelines across five 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