Tianya Liu

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QUALIFICATIONS

- More than four years' academic and hands-on experience in engineering design
- Quick learner with an innovative mindset and a keen interest in solving complex technical problems
- Technical proficiency with SolidWorks, AutoCAD, Siemens NX, MATLAB, and ANSYS
- Expertise in CAD modeling and GD&T standards for technical drawings
- Strong knowledge of FEA, DFM/DFA, FMEA, Risk Mitigation, Root Cause Analysis, and BOM
- Exceptional management, verbal/written communication and interpersonal skills

WORK EXPERIENCE

Engineering Specialist Intern May – Aug. 2018

F&P Manufacturing Inc., New Tecumseth, ON

- Worked within a multi-disciplinary team to design manufacturing equipment for a new CRV production line
- Created CAD drawings and prepared for installations of mechanical systems on the shop floor
- Liaised with external contractors and conceptualized designs for safety and continuous improvement
- Provided timely solutions to technical difficulties by analyzing root causes and designing efficient approaches
- Leveraged multitasking skills to organize different tasks and ensure all deadlines were met

Research Assistant Sept. 2016 – May 2017

UW-Madison Engineering Representations & Simulation Lab (ERSL), Madison, WI

- Independently created SolidWorks models based on engineering drawings and achieved up to **30%** volumetric shrinkage through topology optimization
- Identified models' limitations by performing finite element analysis (FEA) with given boundary conditions
- Assisted in 3-D prototyping process and conducted multiple tests on models with best geometries
- Prepared both verbal and written reports and presented in a regional technical meeting
- Evaluated software add-ins by analyzing results from different 3-D models

RELEVANT PROJECTS

CRV Subframe Transfer System Design (F&P MFG Inc.) Sept. – Dec. 2018

- Managed a team of four to redesign subframe transfer system between two stations on CRV production lines
- Dramatically reduced the risk of injuries on the shop floor by implementing a new system consisting of pneumatic sequencing circuits and an ergonomic welding table designed using SolidWorks
- Conducted Failure Mode & Effects Analysis (FMEA) and generated corresponding designs for safety

Lift Support Clamp Design (Ansik Inc.) Jan. – Apr. 2018

- Conceived, developed, and analyzed 3-D models of a lift support clamp using SolidWorks and ANSYS
- Designed a novel clamping mechanism, resulting in **15**% reduction in model's original material cost

EDUCATION

Master of Engineering (MEng), Mechanical and Mechatronics Engineering

University of Waterloo, Waterloo, ON Sept. 2017 – Dec. 2018

- Graduate Diploma in Design Engineering (Product Design)

Bachelor of Science (B.S.), Mechanical Engineering

University of Wisconsin-Madison, Madison, WI Sept. 2013 – May 2017

- Overall GPA: 3.6 / 4.0
- Achieved Dean's List: Fall 2013 – Spring 2014, Spring 2015 – Spring 2017