MS in Mechanical Engineering at SJSU expected graduation in May 2024

Enhanced Resume: troydschmidt.com

Career Goals

Pursuing a career in mechanical engineering and product design. Passionate about creating systems and products to reduce inefficiencies in workflow and everyday life. Demonstrated ability to complete projects from conception to final product. Self-starter, creative, attentive to detail, with ambitions to make an impact in a multidisciplinary engineering team.

Technical Skills

- SOLIDWORKS, Inventor, AutoCAD
- MATLAB, Simulink, Python, C++
- Ansys, COMSOL
- Injection molding, vacuum molding
- CSA S16, Hands-on steel fabrication
- ASME Y14.5 GD&T, BOM management

Education

MS in Mechanical Engineering / San Jose State University - 3.96 GPA

- Awarded a grant from the National Science Foundation for a research project to assist physically disabled or neurologically impaired individuals using lower-limb exoskeletons
 - Implementing intelligent control strategies using reinforcement learning with MATLAB and Simulink based on real-time estimated center of gravity, gait pattern, and slope prediction using IMU sensors
 - o Electromechanical actuator control using CAN communication with Simulink
 - o Data analysis of human-exoskeleton testing using MATLAB to improve iterative testing
- Stress concentration analysis of varying window corner radius in aluminum airplane fuselage using analytical methods in MATLAB and FEA in Ansys
- Analysis and design iteration of **additive manufacturing** residual stresses of a quadcopter body due to thermal cooling using Ansys and SOLIDWORKS

Bachelor of Engineering (Mechanical) / University of Guelph - Dean's List

• 3D CAD and CFD modeled a prototype of an innovative control system using a pressure vessel with solenoid valves to test the efficacy of dry ozone in reducing foodborne pathogens in deli meats and produce, using SOLIDWORKS, Ansys, and COMSOL

Experience

Product Designer & Co-Founder / Liikkua

- Hand-sketching, SOLIDWORKS 3D CAD, and communicating with overseas manufacturers to prototype vacuummolded polycarbonate luggage
- Failure analysis using Ansys explicit impact FEA, thermal/structural creep multiphysics FEA, and hand calculations of ABS plastic latches
- Material science of PP, ABS, PC, nylon, Aluminum, steel, and TPR hardware as a function of temperature
- Reverse-engineered injection molding, casting, and extrusion processes for entire luggage assembly

Structural Engineer in Training / Western Mechanical / ON, Canada

- Transported the longest wind turbine blades ever in Canada, measuring 239' long, 60,230 lbs
 - Published the 106-page technical report including 2D CAD drawings using AutoCAD and GIS imagery
 - o Engineered load securement using welded gussets and chain in compliance with company policy
 - o Collaborated with Enercon and State/Provincial transportation authorities
 - o Operated remote-steered hydraulic trailer for several 9-day round trips from Duluth, MN to Jenner, AB

2016 - 2020

2023 – May 2024

Jan 2021 – Jul 2022 / Jan 2024

August 2021 – Current

Troy Schmidt

Mechanical Engineering

Experience Cont'd

Structural Engineer in Training / Western Mechanical / ON, Canada

- Component GD&T, fastener & weld design, laser cutting, 2D CAD, and BOM management for commercial infrastructure using AutoCAD and Inventor
 - Published structural drawings for industrial staircases and mezzanines, including general arrangements, assemblies, parts, BOMs, and detailing change orders required for feasibility

Aug 2021 – Current

Jul 2020 – Jan 2021

May 2016 - Jun 2019

- o Consistently liaise with steel fabrication shop for manufacturing custom heavy lift equipment
- **3D CAD modeled** and executed concrete kiln replacement process, beating **cost** and **time expectations** for our client using AutoCAD, Inventor, and on-site preliminary and real-time problem-solving
- Steel component stress analysis and validation by creating MS Excel spreadsheets and performing hand calculations as per CSA S16 Design of Steel Structures
 - Published over 50 railway transportation and securement drawings using AutoCAD for transformers weighing between 100,000 lbs to 500,000 lbs
 - Published several crane lift plans using AutoCAD while ensuring stable center of mass rigging arrangements and adequate safety factors

Bridge Construction Foreman / HPN Engineering / ON, Canada

- Team leader of up to 12 skilled laborers, with interpersonal communication and time management skills for constructing automotive bridges
- Communicating with subcontractors to meet deadlines
- Interpreting 2D CAD drawings to 3D CAD model and manufacture custom CNC-machined concrete forms

Agriculture Operations Associate / Schmidt Agriculture / AB, Canada

- Mission-driven, working several 100-hour weeks to meet critical deadlines during time-sensitive operations
- Managing 1,400 acres of barley and canola crops while utilizing ecological expertise to inform decision-making
- Diagnosing, maintaining, and modifying heavy-duty farm equipment based on root cause analysis
- Proficiency in steel fabrication, including welding, cutting, machining, and finishing