Igor Pivas

Mechanical Systems Engineer

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EDUCATION

Conestoga College Cambridge, ON
Candidate for Bachelor of Mechanical Systems Engineering (GPA: 3.7/4.0) Jan 2020 – Present
Mechanical Engineering Technology Design and Analysis Sept 2016 – Sept 2019

- Recipient of the George Evoy Memorial Bursary

EXPERIENCE

SLA Mechanical Engineering Intern | Formlabs | Somerville, MA, USA Sept 2021 – Dec 2021

- Owned the development of a new resin cartridge valve capable of being retrofitted onto existing cartridges and actuated by the existing mechanism in the Form line of 3D printers
    - Resulted in a bite valve which had a flow rate improvement of up to 280%, was easier to manufacturer, and decreased the amount of resin wicked onto the valve actuator arm of the printers
- Developed a process for quickly preparing 3D printed molds for silicone casting, cutting the time taken to prepare the molds from 2 days to 1 day, allowing for a faster iterative design process while avoiding silicone cure inhibition
- Designed, built, and tested electromechanical systems for dispensing resin which improved dispense rates up to 300%. Systems included thermal and flow control and monitoring in order to provide consistent results
- Engineered electronics mounting and wire routing solutions for prototype printers to allow for fast assembly of new printers and quick changes to electronics components
- Developed test programs for new technologies to improve the usability of Formlabs 3D printers, through designing and building test stands; and creating python applications and MATLAB data analysis and visualization scripts

Engineering Design Co-op | Linamar | Guelph, ON Sept 2018 – Dec 2018

- Engineered and implemented machine components such as jigs and pressing tools for manufacturing systems to repair and improve machines in a timely and cost-effective manner
- Worked as part of a team to optimize a new production line by running material studies, collecting and analyzing data, and presenting findings in written reports and presentations
- Designed guarding solutions to protect sensitive equipment from contaminants
- Conducted FEA testing to analyze and verify the failure mode of a tool which was not performing as expected
- Used Minitab to create detailed reports on experimental findings of manufacturing process studies, time studies, and metrological process validity to present to customers

Equipment Designer – Drivetrain Group Co-op | Tigercat | Kitchener, ON Jan 2018 – May 2018

- Improved thermal performance of a hydraulic gearbox by developing an into-mesh lubrication system; utilized 3D printed prototyping and conducted practical testing to build and correlate accurate SolidWorks CFD models
- Collaborated with an engineering team in the preliminary design stage of the TCi 920 Forestry Dozer, focusing on the suspension system as well as the tractive force and ground pressure calculations
- Increased productivity of bogie assembly line through the design of a production stand that can hold multiple sizes of bogies up to 4000 kilograms with minimal change in setup
- Improved safety of gearbox test stands by designing shaft guarding that complied with necessary company safety standards

SKILLS

CAD/FEA: SolidWorks (FEA, CFD, TolAnalyst), NX, Solid Edge, Onshape, AutoCAD, Inventor, Ansys
Prototyping: GD&T, 3D Printing, Practical Testing, Correlation Studies
Programing: Visual Basic, C++, Python, MATLAB, Arduino, PIC