TOMMY PHAM

B. Eng. Mechatronics and Precision Engineering

2360 Dundas Street West, Toronto, ON, M6P 4B2
(647)-774-2386, tommypham647@gmail.com

PROGRAM MANAGER / MECHATRONICS/DESIGN ENGINEER / FACILITY SUPERVISOR

SKILLS

- 9+ years of experience in Mechatronics and Precision Engineering
- Work experience gained in Canada and Germany, Bachelor's Degree received in Munich, Germany
- Good experience in interpretation of engineering drawings, creation of assembly, manufacturing, technical documentation, program management, facility management and teaching engineering students (UofT) in design, prototyping and manufacturing
- Good experience of drafting standards ASME Y14.5, application of GD&T engineering standards ISO, DIN, etc.
- Good experience in 2D/3D part & assembly modeling, detailing for top-down & bottom-up design
- Good experience of RPT (Rapid prototyping), reverse engineering, drawing quality checking, engineering hand calculation, DFMA (Design for Manufacture and Assembly)
- Experience in design low cost & simple designs for tooling, fixtures and injection mold part design
- Plastic injection molding design with consideration in mechanical stability, sink mark reduction, manufacturability, cost reduction, efficiency of production and quality control
- Confident in customer/student service environment, sales and product evaluations & inspections
- **Drafting Software**: CATIA V5, SolidWorks, AutoCAD. **3D Printing Software**: Slicer, simplify3D
- **Modeling and Simulation:** MATLAB/Simulink, Maple
- **Other Tools:** ENOVIA (DS), ANSYS (FEA), LabView, C++, CNC-Programming, Office 365
- Experience and knowledge of various manufacturing processes such as injection molding, casting, welding, stamping, CNC/lathe etc.& **digital fabrication** such as laser cutting, water jet cutting, 3D-Printing & woodwork
- Knowledge in WCM methodologies such as Kaizen, Six Sigma and Lean Manufacturing
- Languages: Verbal and written fluency in English, German and Vietnamese

WORK EXPERIENCE

Oct 2018 – present *Makerspace Facility Supervisor* Toronto, Ontario

University of Toronto

- Oversaw Myhal Light Fabrication Facility (LFF), Rapid Prototyping Facility (RPF) and Arena with all the engineering clubs and teams (Eng/Sci) at its max. occupant capacity and ensured a safety, learning and fun environment, for all students. Courses occupied: APS111/112, ESC101/102, AER201, MIE444; Capstone Projects.
- Reported incident reports directly to Myhal Facility Manager. Incident reports capture unsafe practised activities by students or any issues regarding facility and safety.
- Provided consultations for students/student groups and recommended suitable materials and techniques of approaching fabrication/lab work. Analyzed with students applicable installation methods for apparatus and devices.
- Analyzed and observed working patterns of students to improve a safe process and workflow to ensure facility's efficiency.
- Established a better relationship with engineering clubs (Eng/Sci) and the Light Fabrication Facility (LFF) to get more insights about their work and to support students to accomplish their club projects safe and effectively.
- Supported students in all fabrication techniques such as woodwork, 3D-Printing (FDM/SLA), Laser cutting, lathe, CNC, soldering etc. Held safety training Tier1 (hand tools) and Tier 2 (Power tools) in front of 1 – 20 Students.
- Dealt with suppliers and any day to day operations at the Myhal LFF/RPF and Arena (Eng. Clubs).
- Completed "Foundations of Project Management" at the UofT. Aiming for PMP certificate. P. Eng. in process.

WORK EXPERIENCE (continued)

Feb 2018 – Sept 2018 *Quality Control Manager* Richmond Hill, Ontario

Kemflo Canada Inc.

- Responsible for managing the quality of production, Team leads and Operators in the entire plastic injection molding plant for all three shifts (day, afternoon and night)
- Oversee entire production plant with 30 machines running daily (annually revenue ~ $10 million)
- Negotiated favourable pricing with different vendors/suppliers by establishing a pricing strategy and maintaining close relationships with key suppliers.
- Performed a variety of quality control functions, including compliance with NSF, UL, CSA and INTERTEK, performing audits, different type of tests (e.g. pull test, drop test, torque test, leakage test, material test, pressure test etc.).

Dec 2016 – Jan 2018 *Program Manager/Mechatronics Design Engineer* Toronto, Ontario

Almon Equipment Ltd.

- Managed and designed various projects in the highway/road construction field
- Designed in Solidworks 2017 Steel Barrier Prototypes for highway traffic in consideration of MTO standards (Ministry Transportation of Ontario)
- Conducted multiple FEA Analysis in Solidworks 2017 to pass MTO safety requirements for Steel Barriers.
- Designed a PCB control box to replace conventional wiring for TC-12 Arrow boards
- Designed a complete Crash-truck (deck, header, solar panel bracket, control box) for company's new Product line. Product is going to launch in the early year and will profit companies overall revenue.
- Improved the design of an Astra Grinder Trailer, for better and smoother road mark removal
- Designed a shaft with keyways, keys and bold to hold all the components of the grinder in place and sent it for production.
- Conducted various tests on road cuts to determine the correct cutting blades, operating RPM, blade and road temperature etc.
- Generated for each project: drawings, documentations, SOPs (Standard Operating Procedure) and power points on a daily basis.
- Dealing with vendors, suppliers (electronic parts, tools, trucks) and material (steel) supplier on a daily basis.
- Managed 15-20 people in production facility for a perfect execution of design, concept and manufacturing.
- Reported directly to senior manager (holder of a PhD in Mechatronics Engineering) of the company.

Feb 2015 – Nov 2016 *Product Design Engineer* Stoney Creek/Hamilton, Ontario

Tiercon Corp.

- Worked on VW (Volkswagen) 416 Program from beginning to launch: 50% design responsibility with VW.
- Designed in CATIA V5: Door Covers, Wheel Arches, Drag Reduction Sill Cover and Chrome attachment pieces for the 2 different Door Cover versions (Highline, Baseline). All designs were designed in consideration of feasibility, manufacturability (DFM/DFA), low cost and high performance for injection molding.
- Conducted moldflow studies to ensure a clear understanding of the part characteristics.
- Managed all CAD Data between VW, Suppliers, Tool makers, Fixture makers etc.
- Built 3D prototypes to ensure a proper and easy assembly. Created tools for zero series built.
- Worked closely with all departments such as Quality, Tool makers, CMM specialist and procurement.
- Generated part drawings, BOMs and general assembly drawings with consideration of GD&T.

WORK EXPERIENCE (continued)

- Verification and/or validation of design through tolerance analysis, engineering calculations, prototypes, fit-ups, DVP&R management etc.
- Participated in weekly APQP meetings to ensure a full understanding of the current stage of the program.
- Supported the VW 416 R-Line Program for similar product parts as the VW 416 program.
- Traveled to fit ups, Tool Maker Company and VW Osnabrück in Germany.
- Performed different tests according to VW requirements (pull test on doghouses, adhesion test, temperature testing, etc.)
- Collaborated with buyers and vendors on a daily basis.
- Held design reviews and worked on assigned innovative projects, which was reviewed at the end of the year.
- Reported directly to department manager on a one-on-one monthly meeting.

Nov 2013 – Feb 2015 *Mechanical Design Engineer* Concord, Ontario

AB SCIEX

- Worked in the department of high voltage power supply (HVPS) for Mass Spectrometers
- Designed various jigs and fixtures for 3D-printing and manufacturing using CATIA V5
- Created prototypes, tested functionality and developed specifications
- Developed new solutions to production problems related to materials, processes and tooling
- Worked from engineering sketches, created solid models and detailed drawings for various parts and assemblies using CATIA V5
- Generated 3D Printed Circuit Boards (PCB) using CATIA V5 to perform tolerance stack up and analysis
- Implemented new designs, created ECOs (Engineering Change Orders) into company's system using ENOVIA
- Collaborated with electrical and manufacturing engineers, buyers and vendors on a daily basis
- Assembled and reworked different design concepts in workshop using various machines (lathe, mill, vertical drilling machine etc.)
- Reported directly to department manager on a one-on-one monthly meeting

Nov 2010 – April 2013 *Mechatronics Design Engineer* Vaughan, Ontario

Factor Power Inc.

- Designed product's ABS enclosure for injection moulding using CATIA V5 and SolidWorks, overcame challenges such as manufacturability while minimizing production cost
- Designed various sheet metal parts and enclosures for prototyping and manufacturing.
- Liaised with multiple international companies to study the range of manufacturing capabilities for injection moulded/sheet metal enclosures, as well as conducted price negotiations to ensure low cost
- Aided device firmware features in C using Microchip MPLab.
- Tested and debugged product firmware using Microchip Explorer 16 development board
- Developed (for various projects) accurate and precise hands on prototype construction as well as recommendations for efficient prototyping and sources of fabricated materials
- Provided effective documentation of updates/additions to design documents and testing methods during research, design, development and testing phases.
- Developed training programs for 3rd and 4th year university interns
- Mentoring co-op students in the basic of CAD and assisted them in program debugging

WORK EXPERIENCE (continued)

May – Oct 2010 *Automotive Engineering Research Co-op* Munich, Germany

Tuev-Sued Automotive GmbH

- Researched vehicle transmission performance with consideration of cabin sound level, fuel efficiency, clutch life, and passenger ride experience
- Designed and conducted series of experiments to achieve optimum solution by varying amount of clutch slip, engine RPM, engine type, and fuel octane level
- Achieved 95% grade on an 80+ pages final year academic thesis, aiding the company to characterize vehicle transmission systems

Aug 2009 – Feb 2010 *Mechatronics Engineering Research Student* Munich, Germany

BMW AG

- Applied academic theories such as the Theory of Inventive Problem Solving (TIPS) to improve passenger Safety BMW 5 series vehicles, contributing to passing vehicle crash tests (EURO NCAP)
- Built a 3D model using Matlab/Simulink based on theories and gathered data, achieving different outcomes
- Prepared and conducted monthly presentations of various improvements that can be considered to headquarters

Aug 2008 – Feb 2009 *Mechatronics Engineering Working Student* Munich, Germany

Tuev-Sued Automotive GmbH

- Developed different methods to measure vehicle fuel consumptions of vehicles and contributing to the overall efficiency of the vehicle
- Assisted EC directives with MKS Integrity certification to achieve ISO 26262 compliance, allowing the company to achieve its goals effectively and efficiently
- Assisted professional engineers with various technical services such as reviewing and assisting with various projects

EDUCATION

2006 – 2010 Munich, Germany

Munich University of Applied Sciences

- Received B. Eng. of Mechatronics and Precision Engineering
- Specialized in Instrumentation Engineering
- Achieved 95% grade on an 80+ pages final year academic thesis