Karan Virmani

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Profile

Commitment and ability to continuously improve by adopting new methods and technology. I am a go-getter, self-starter and over the years have developed great problem solving skills. I work efficiently with minimal supervision.

Five years of hands-on experience in continuous improvement, lean/six sigma manufacturing, mechanical design using CAD, welding and fabrication, paint application, supply chain management and machining.

Key strengths include persistence, analytical aptitude, team work and project management. Committed to learning the best industry practises and applying current technology to solve business problems.

Education

Candidate for the Bachelors of Applied Science, Honors Mechanical Engineering (co-op) program at the University of Waterloo, (April 2015)
Specialization in Welding and Joining, will graduate with a CWB Welding Certification

Summary of Skills

Manufacturing Experience	Six Sigma Manufacturing, Continuous Improvement Processes, Project Scheduling, Capacity Planning and Manpower charts, Supply Chain Management, Design for Manufacturability, Design for Assembly, Paint Process. Knowledge of industrial metallurgy and welding processes Experience with APQP, PPAP and FMEA documentation Experience working with Chinese and Mexican OEM's in high value production parts
Fabrication Processes	Hands on Machining, Fixture Design, Sheet Metal Fabrication (bending, cutting, punching, fine blanking), Pneumatics, CNC Programming, PLC Programing, , MIG Welding, Robotic Systems, knowledge of material
CAD Software	SolidWorks, NX8 Unigraphics, CATIA, CADKEY, I-DEAS, Inventor, Bob CAD-CAM, AutoCAD Proficient in GD&T
Validation and Testing	Proficient in creation and validation of experimental test methods to improve products, programs and reduce costs for manufacturing. Experience implementing quality plans
Engineering Calculations	Finite Element Analysis (FEA) using ANSYS, Abaqus and Cosmos Express Heat transfer and fluid mechanics calculations using Mat Lab & Mathcad Proficient with kinematic and structural calculations
Computer Languages	Proficient in VBA programing for Excel and Access Experience in implementation of databases Experience in C, C++, C#, Java, HTML, Visual Basic, VB Script, C++, MY SQL

Work Experience

Design Engineering, ATS Automation, Toronto, Aug. 2014 – Sept. 2014

6 week contract position providing support for design and detailing of tooling.

- Design and detailing of tooling for large-scale automation lines using SolidWorks.
- Application of GD&T principles and selecting proper material, finish and hardness to prepare detailed drawings
- Providing support to shop floor staff through design and detailing of existing tooling using SolidWorks

Mechanical Designer, Peerless Custom Racks, Toronto, May. 2014 – Aug, 2014

- Implemented continuous improvement, six sigma and 5S project initiatives by investigating and presenting cost saving solutions for problems with metal fabrication process like welding, bending, cutting, punching and assembly.
- Prototype development of tooling used to hold parts during electroplating and painting processes using SolidWorks
- Preparation of quotations, project budgets, detailed project execution plans/scheduling,
- Used excel programing to automate creation of quotes and cost tracking
- Contact vendors and collect quotations to identify products and strategies to reduce project costs
- Work closely with the business development manager, plant manager and department leads to ensure that the project resource requirements and schedules are being maintained
- Preparation of operating instructions, APQP, PPAP and FMEA documentation

Paint Process Engineering, Polycon, subsidiary of Magna International Inc. Guelph, Sept. 2013 – Dec. 2013

- Developed solid 3D CAD models of GM and Chrysler products in order to integrate into a robot simulation package.
- Creation and validation of experiments and test methods to analyze effect of fluid flow, shape air, atomization and kirchhoff's voltage on paint quality
- Conducted product validation trials to understand Transfer Efficiency differences between different paint applicators and to study different types of defects on painted parts
- Designed and implemented concepts in order to optimize processes and increase productivity
- Heavily involved in the technical development of color using a Bell-Bell paint application process

Nuclear Design Engineering, Babcock & Wilcox, Cambridge, Canada, Jan. 2013 – April. 2013

- Assisted the lead engineer in the Nuclear Engineering Department with the thermal and structural design and analysis of pressure vessels, steam generators and heat exchangers in accordance with the ASME Boiler and Vessel Code, Section III, class 1 requirements
- Used ANSYS and knowledge of Mechanics of Deformable solids for the FEA analysis of components
- Used MathCAD to carry out Thermal/Hydraulic calculations on heat exchangers and steam generators
- Created engineering calculations by manipulating experimental data and producing a variety of graphs for data presentation

Manufacturing Engineering Support, Melitron Corporation, Guelph, Canada, May. 2012 – Aug 2012

- Worked on supply chain management, project scheduling, planning and manpower charts by collaborating with product engineers and production floor associates to set up assembly line for self-service kiosks.
- Worked as a part of the New Product Introduction Team (NPI) on the prototype development of sheet metal components for electronic chassis, industrial enclosures, and self-service kiosks.
- Investigated and presented solutions for problems with sheet metal fabrication process like welding, bending, cutting, power coating and pad printing
- Designed modular fixtures for welding, painting and pad printing of sheet metal components
- Reviewed drawings for accuracy, correct materials, proper machining techniques, finishes and hardness, made changes, then submit final copies to engineering staff for approval.
- Performed six sigma time studies to assist with line balancing to improve production time

Product Engineering Designer, Precision Resources, Cambridge, Canada, Sep. 2011 – Dec. 2011

- Analysed manufacturing and production processes to prepare quotes for custom tools and provided them to customers after the approval of the engineering department.
- Coordinated with OEM's in China, Mexico and USA to prepare quotes for Fine blanking tools for the production of parts.
- Designed a hybrid tool mounting plate with the capability of mounting tools used in two different presses
- Designed fixtures for deburring, painting and quality control of custom fine blanked parts.
- Coordinated between the engineering and quality control department

Engineering Project Coordinator, Providence Healthcare, Toronto, Canada, Jan. 2010 – April 2010

- Research and develop AutoCAD schematics for various automated hospital systems including electrical and mechanical distribution.
- Coordinate various maintenance projects including cost estimate, materials and service procurement and contractor supervision
- Designed, developed and implemented a MS Access based database to help manage wheel chair orders and keep an inventory of all the wheelchairs in the hospital.
- Designed a database in MS Access and MYSQL to manage the wheel Chair orders and keep an inventory of all the wheelchairs in the facility
- Monitor and trend utilities for the hospital's energy efficiency program

Manufacturing Engineering, Yamaha Motors, Noida, India, Jan. 2009 – April 2009

- Worked on designing gauges and jigs using SolidWorks for Fabrication Processes, Painting process, Engine assembly process and vehicle assembly manufacturing process.
- Worked with the continuous improvement department to implement six sigma practices
- Improved manufacturing processes by reducing physical demand on operators and reducing changeover times
- Worked in shop floor for manufacturing parts like Fuel Tank, Frame, Muffler
- Performed hands-on maintenance and repairs on manufacturing plants mechanical and electrical equipment under supervision

Relevant Projects

Continuous Improvement Initiative to Increase Paint Efficiency, Polycon, Subsidiary of Magna International Inc. Guelph, Sept. 2013 – Dec. 2013

- Worked on creation and validation of experimental test methods for color development
- Helped transition from Gun to Bell paint applicators
- Worked on continuous improvement of paint quality and cost reduction initiatives
- Used design of experiments to analyze effect of Fluid, Shape Air, Atomization and KV on paint quality

Mechanical Team Leader for the UW MRT (University of Waterloo Mars Rover Team), University of Waterloo, Sept. 2012 - Feb. 2013

- Designed a Robotic Arm using SolidWorks
- Performed kinetic calculations on different motion mechanisms within the robot
- Designed a differential motor system for the robot
- Fabricated parts for the robot in the student machine shop in waterloo
- Gave tutorials on the use of SolidWorks and machining to members of the mechanical team
- Assigned different tasks to the members of the mechanical team
- Worked with the Electrical and Software teams to integrate different systems

Activities & Interests

- Enjoy designing and machining parts for robotic projects
- Enjoy playing basketball.
- Enjoy practicing Muay Thai