Nishma Bhatt

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EDUCATION

	YEAR	GRADE
Masters **Aerospace Engineering** Ryerson University MEng	2015 – 2017	GPA: 3.7
Bachelor of Engineering with Honors in **Mechanical Engineering** BEng	2010 – 2014	CGPA: 7.8/10
Diploma in Multimedia – Graphics, Web & Animation: PGDM	2005 – 2007	87%
Verbal and Written Communication Skills:		
IELTS	2018	7 band
English Composition: Achieving Expertise – Duke University certificate		
Basic knowledge of French. (Learning)		

TECHNICAL EXPERIENCE

Multimatic Motorsports ***Jr. Mechanical Engineer/Technician*** ***Sep. 2017 – Jan. 2018***

- Manufacturing sub-assemblies following supplied engineering drawings, and quality control processes.
- Assembling and fitting components to prototype and niche vehicles.
- Problem solving, as necessary. CAD design using CATIA V5.
- Working with composite components and its Manufacturing.
- Working on programs specific to Ford GT, Mustang, Formula 2 race cars etc.

Ryerson Formula SAE Racing ***Team Member*** ***Sep 2015 – Sep 2017***

- Machining and assembling components.
- Designing of Jigs and fixture, body, chassis and many othercomponents in Auto CAD, SolidWorks & CATIA.
- Experience & understanding of a Finite Element Analysis and various FEA tools.
- Detail Understanding of Structure mechanics, Dynamics of Machines, & IC engines.
- Preparation of robust, high quality and legal surface models for CFD.
- Knowledge of Wind tunnel testing and an excellent understanding of a 3D CAD system

Mahindra Yuvraj 215 Tractors ***Intern Engineer*** ***Jan. 2013 – Dec. 2013***

- Automotive manufacturing experience for Engine, Transmission and Hydraulic Department.
- Helping with components assembly, general laboratory test preparation and product concepts.
- Contributed to development of new ICE CAM design project, targeting NOx reduction.
- Perform actively in the everyday routine of the manufacturing department, including component and assembly testing to the Quality standards set and the procedures defined by the Lean Manufacturing production.
- Contribution to the analysis of test results and compilation of accurate reports detailing the findings from Engine Testing. Understanding of quality and productivity KPIs and SPC and DOE for process optimization.
- 3D CAD modelling and analysis, using AUTOCAD
- Diagnosing faults, issue and risks. Find its root cause and resolve the problem.

COMPUTER SKILLS

- AutoCAD
- 3DS Max
- CATIA
- SolidWorks
- Matlab
- MS Word
- MS Excel
- MS PowerPoint
- MS Access
- Microsoft Project
- other MS office tools
- ANSYS Workbench
- Python & C-language
- Fortran
- Comsol Multiphysics
- Presagis FlighSIM
- JSBSim-FlightGear

PROJECT EXPERIENCE

Analyze & Simulate: Aerodynamic Performance &Structural Deformation of a 1st Stage Compressor Blades

A mesh was created in both ANSYS TurboGrid and the Mechanical, using a geometry developed in ANSYS BladeGen and Catia V5. Initial parameters defining the aerodynamic simulation were set in CFX-Pre and was solved in CFX-Solver. The aerodynamic solution from the solver was processed and displayed in CFD-Post. Mechanical application was used to simulate structural stresses and deformation on the blade due to pressure and temperature loads from the aerodynamic analysis and rotationally-induced inertial effects. Output showed the resulting blade distortion.

Exhaust gas analysis of IC diesel engine

Exhaust gas analysis of a Field-Marshal, 4-stroke, water cooling, 863.5cc 15 HP, diesel IC engine, used in Mahindra Yuvraj 215 tractor, which is exceeding the India-2010 (Bharat IV) Emission Norms. Various checks/tests were performed for actual cause detection. It includes Governor Assembly malfunctioning check, Fuel cut-off timing check, Fuel Injection System Check, Bumping clearance test, Piston rings degree disturbance check, etc. From results, actual cause has been detected, and eradicated by design improvement in CAM design.

Numerical investigation of the impingement of a planar jet of nanofluids on a v-shaped plate.

Heat transfer enhancement of an impinging liquid jet on a V-shape target plate cooling system, has been investigated numerically, by replacing the base fluid, water, with Al2O3–water nanofluid. Literature review on nanofluid heat transfer enhancement, jet impingement, and nanofluids jet impingement, has been conducted. Numerical model has been built using ANSYS Workbench 16.0. After validating the numerical code with the previous experimental data, the effect of nanoparticles volume fraction, jet-surface distance and jet's Reynolds number on the heat transfer enhancement has been investigated.

ONLINE LEARNING, TECHNICAL TRAINING & WORKSHOPS

I am an active student of Online learning & MOOCs specially COURSERA, Edx, NPTEL successfully completed following courses:

- MATLAB – Lynda.com
- Six Sigma: Black Belt & Green Belt - Lynda.com
- Control of Mobile Robot – Georgia Institute of Technology
- Project Management Foundations - Lynda.com
- Business Acumen for Project Managers - Lynda.com
- Introduction to Logic – Stanford University

currently working on many other courses.

- Aircraft Performance, NPTEL IIT Kanpur
- Aircraft Stability and Control, NPTEL IIT Kanpur
- Aircraft Dynamic Stability & Design Stability Augmentation System, NPTEL IIT Kanpur
- Thermodynamics – University of Michigan
- Fundamentals of Fluid Power: Hydraulic and Pneumatic systems –University of Minnesota

Also, worked on following:

- Auto Electrician: Technical Training
- Mercedes Benz: Workshop by Mercedes Benz
- Robotics: Workshop by IIT Guwahati, winner of the same

PERSONAL WORK ATTRIBUTES

- Good interpersonal, networking and analytical thinking skills. Excellent organizational skills
- Self-Motivated , Disciplined, Passionate & Able to Work Autonomously Under Pressure and To Tight Deadline.
- Capable of working alone and in teams. Able to report results clearly
- Able to work in a fast-paced, learning environment.

NON-TECHNICAL EXPERIENCE

SDI Marketing Toronto	**Sales Representative**	**May 2016 – Aug. 2017**
Ryerson University	**Black History: Project Organizer**	**Nov. 2015 – Apr. 2016**

VOLUNTEERING EXPERIENCE

Ryerson University Tri-Mentoring Program (TMP)	Mentor
Toronto Wildlife Center	Volunteer member
Ryerson Formula SAE Racing team	Member