

Rushit Virani

Bachelor of Technology(**Hons.**)(Pre-Final Year)
Department of Mechanical Engineering
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EDUCATION

2015-Present	B.Tech(Hons.) in Mechanical Engineering, IIT Ropar CGPA: 7.71/10.
2015	Intermediate(12th Standard), Central Board of Secondary Education(CBSE) Board Percentage-90%.
2013	Matriculation(10th Standard), Indian Certificate for Secondary Education(ICSE) Board Percentage-90%.

RESEARCH EXPERIENCE & TRAINING

May-July 2017	Influence of Tool Plunge Depth on Micro-structure, Hardness and Corrosion resistivity of Friction Stir Processed Magnesium reinforced with Hydroxyapatite fabricated for Bio-implant applications. Advisor: Dr. Harpreet Singh, Professor, IIT Ropar, India. The internship aimed at finding the effect of varying the tool plunge depth while friction stir processing Magnesium reinforced with Hydroxapatite. The surface composite produced is found to have increased hardness and corrosion resistivity and so can be effectively used as a biodegradable implant.
Mar-April 2017	Fabrication and Characterization of Hair Reinforced Composites. Advisor: Dr. Ravi Mohan Prasad, Assistant Professor, IIT Ropar, India. The Project aimed at using Biological Fibre(Hair) to make Fiber Reinforced Polymer (FRP) composites. Composites with different weight percent were made and their true stress-strain graph(found using Universal Testing Machine) were compared in order to optimize the tensile strength of the composite.
June-July 2016	Industrial internship at Jyoti CNC Automation Ltd. Advisor: Mr. Vincent Dhobi, Intern's Head, Jyoti CNC Ltd., Rajkot, Gujarat, India. The internship aimed at providing practical knowledge of manufacturing a Computer Numerical Control Machine. Designing of CNC in R&D Department to casting of the designed products in foundry, their machining in the Machine shop to their final assembly in the Assembly area until its dispatch was experienced.

ACADEMIC PROJECTS

Jan-Apr 2017	Advanced Material Characterization through X-Ray Diffraction and SEM & AFM. Advisor: Dr. Ravi Mohan Prasad, Assistant Professor, IIT Ropar, India. Understood the working of XRD and SEM machine with its components and their functions. Performed graphical analysis using PANalytical software on various samples including the process of Ball-milling and the consequent broadening of X-ray spectra. Familiarized with other Material Characterization techniques which includes Optical Microscopy, Mercury Porosimetry, Nitrogen Adsorption, TEM, TGA, DSC, TMA, TPD, AFM and Infrared Spectroscopy.
Jan-Apr 2017	Designing and Fabricating a Portable Hybrid Power Generator Advisor: Dr. Prabir Sarkar, Assistant Professor, IIT Ropar, India. The project aimed at manufacturing a portable device for hikers that can be used to generate electricity by both Wind as well as small rivulets to charge cellphones and other gadgets where there is no source of electricity.
Jan-Apr 2016	Designing and Fabricating a Stair climbing locomotive Advisor: Dr. Anshu Dhar Jayal, Assistant Professor, IIT Ropar, India. The Project aimed at manufacturing a manual driven locomotive that can be used to manoeuvre goods up the stairs by a combination of three wheels on both sides in such a way that to produce rotatory motion while climbing up the stairs.

SKILLS & RELEVANT COURSEWORK

CAD Software's	Solidworks, Creo, Abaqus, Comsol.
Languages	C, C++, Java, Matlab.
Software's	HTML&CSS, Origin, Opensim, Latex.
Courses	Material Science & Engineering, Advanced Material Characterization Techniques, Mechanics of Materials, Manufacturing with Non-Metallic Materials, Manufacturing with Metallic Materials, Heat & Mass Transfer, Machine Element Design, Theory of Machines, Energy Science & Technology, Classical Mechanics, Fluid Mechanics, Engineering Mechanics, Product Design and Realization.

ACHIEVEMENTS, POSITIONS & MEMBERSHIP

August 2017	Appointed as the Secretary of Society of Mechanical Engineers(SME) from August 2017 till date.
May 2017	Member of the transmission team of IIT Ropar's Baja team that manufactures an ATV from scratch for the competition.
March 2017	Main Co-ordinator with the media team, MTV that covered the annual cultural fest of IIT Ropar, held in March 2017
February 2016	Member of Event Management Team of 'Zeitgeist' , annual cultural fest of IIT Ropar, held in Feb 2016
September 2015	Member of the Editorial Team of College Magazine 'KSHITIJ', of IIT Ropar from September 2015 to September 2017.
August 2015	Active member of Society of Mechanical Engineers(SME), IIT Ropar. Attended various professional talks under SME. Elected as the Batch Representative of SME from August 2015 to August 2016.
June 2015	Cracked IIT-JEE (Indian Institute of Technology Joint Entrance Exam) with All India Rank 4544 out of 1.3 million aspirants(Percentile of 99.65%).