

## CURRICULUM VITEA



### SAROZH MAHARJAN

Hadigaun, Kathmandu (Nepal)

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thesarozh@gmail.com

Sex Male | Date of birth 29 Oct. 1993 | Nationality Nepalese

### WORK EXPERIENCE

<b>Aug. 2019 - Present</b>	<b>Mechanical Design Engineer / CAD Engineer / Manufacturing Supervisor</b> <b>MACHINE HUB NEPAL (P.) LTD.</b> Baluwatar, Kathmandu (Nepal) <a href="http://www.machinehubnepal.com">http://www.machinehubnepal.com</a>
Activities	<ul style="list-style-type: none"> <li>- CAD modelling of machine components (esp. CSEB Interlocking Machine, Agro-Machineries) in SOLIDWORKS</li> <li>- Providing engineering and workshop drawing of all components of the machines (Computer Aided Drafting)</li> <li>- Performing Computer Aided Analysis of crucial machine components in ANSYS</li> <li>- Providing designs and models for 3D printing</li> <li>- Preliminary and conceptual designs (pencil sketching)</li> <li>- Space and scrap management of polyurethane panel and MS sheets (for Egg Incubator)</li> <li>- Providing basic mechanical fabrication supervision to foremen (filing, cutting, grinding, drilling, labelling, etc.)</li> <li>- Creating Bill of Material (BOM) and material and cost estimation of the machines to be manufactured</li> </ul>
Field	Design, Manufacturing and Analysis
<b>Aug. 2018 – Jul. 2019</b>	<b>Mechanical Designer/Fabricator   Practical Tutor   Project Supervisor</b> <b>BOSC FOUNDATION (P.) LTD.</b> Kupondole, Lalitpur (Nepal)
Activities	<ul style="list-style-type: none"> <li>- Designing and fabricating school science projects like Water Pump Model, Periscope, Wind Power Model, Sprinkle</li> <li>- Tutoring students regarding the practical teaching/demos of Science subject (physics)</li> <li>- Supervising and mentoring students of school in their science projects</li> <li>- Tutored Physics practical/uses and project supervising to the students of all schools of Fikkal Gaupalika, Sindhuli (Nepal)</li> </ul>
Field	Tutoring, Scientific and Technical Activities
<b>17 Oct 2016 – 20 Nov 2016</b>	<b>Internship</b> <b>BALAJU YANTRASHALA (P.) LTD.</b> Balaju Industrial District, Kathmandu (Nepal) <a href="http://www.bys.com.np">www.bys.com.np</a>
Activities	<ul style="list-style-type: none"> <li>- Understanding mechanical/industrial production process and techniques of arc-welding, gas cutting, milling, lathe machining, shaping, forging, wire knitting, turbine and hydropower designs/fabrication, etc.</li> <li>- Familiarization with all the departments along with their operations (of production, storing, management, etc.)</li> </ul>
Field	Business/Manufacturing
<b>2014-2016</b>	<b>General Member (Mechanical)</b> <b>Robotics and Automation Center, Thapathali Campus</b> Thapathali, Kathmandu (Nepal)
Activities	<ul style="list-style-type: none"> <li>- Built manual and auto bot and represented Nepal to become finalist in International Robotics Challenge – IIT Bombay.</li> <li>- Designed and fabricated an auto bot with scissor jack mechanism that lit fire lamp on campus's 50<sup>th</sup> anniversary. (<a href="https://www.youtube.com/watch?v=jPqUz6K5TbM">https://www.youtube.com/watch?v=jPqUz6K5TbM</a>)</li> <li>- Built manual remote control robot and 4 – wheel drive robots using aluminium fabrication techniques.</li> <li>- Built robot components such as gripper, pulley, castor-wheel, frames, using machining process (lathe/grinder/drill/saw).</li> <li>- Provided software trainings (SOLIDWORKS/Catia) and mechanical fabrication trainings during Robotics Week.</li> <li>- Jury for Robot Design Competition &amp; CAD during Robotics Week 2017 organized at Thapathali Campus.</li> </ul>
Field	Professional, scientific and technical activities
<b>Informal/Part Time Job</b>	<b>Freelance Mechanical Designer / CAD Tutor / Fabrication Trainer</b> <b>FREELANCE</b>
Activities	<ul style="list-style-type: none"> <li>- Providing software training programs related to SOLIDWORKS and Catia (CAD, CAM, CAA)</li> <li>- Providing designs for 3D printing</li> <li>- Providing basic mechanical fabrication training (filing, cutting, grinding, drilling, etc.)</li> <li>- Providing tuitions to school students (since 2010, just after my 10<sup>th</sup> grade) with the mind-set to help them especially in Mathematics and Science along with other subjects in which the students feel difficulty studying</li> </ul>
Field	Design, Fabrication, Teaching and Tutoring

## EDUCATION AND TRAINING

2013–2018	Bachelor of Engineering in Mechanical Engineering <b>Tribhuvan University, Institute of Engineering, Thapathali Campus</b> Thapathali, Kathmandu (Nepal) <a href="https://www.tcioe.edu.np/">https://www.tcioe.edu.np/</a>	64 %
2010–2012	High School (Science) <b>Kathmandu Institute of Science and Technology (KIST) H.S.S.</b> Kamalpokhari, Kathmandu (Nepal) <a href="http://kist.edu.np/">http://kist.edu.np/</a>	78.70 %
	Secondary Education <b>New Leera H.S.S.</b> Gairidhara, Kathmandu (Nepal)	85.63 %

## RESEARCH PROJECTS

BE Project Title	<b>'TO DEVISE MANUAL STAIR CLIMBING WHEELCHAIR'</b>	(September 2016 – September 2017)
Objective	Design, fabrication & testing of a stair-climbing wheelchair running on users hand muscles power.	
Supervisor / Lab	Asst. Prof. Rajkumar Chaulagain & Asst. Prof. Laxman Palikhel / Thapathali Campus, IOE, TU.	
Execution	<ul style="list-style-type: none"> <li>Mechanical Design, CAD Modelling and Motion Study in SOLIDWORKS.</li> <li>Computer Aided Engineering (Simulation) in ANSYS for static loading.</li> <li>Fabrication of prototype &amp; performance testing with children as test subject.</li> <li>Need analysis, demonstration and feedbacks with disability organizations.</li> </ul>	
Achievements	<ul style="list-style-type: none"> <li>Awarded fund by 'Abhiskar Fellowship 2017' a Think Tank Canada Initiatives by ISET Nepal. (<a href="http://isetnepal.org.np/manual-stair-climbing-wheelchair/">http://isetnepal.org.np/manual-stair-climbing-wheelchair/</a>)</li> <li>Awarded winner of video competition themed 'Future Engineers Shaping Nepal' by Macquarie University &amp; PAC Asia. (<a href="https://www.youtube.com/watch?v=n8Lj8C0sVHs&amp;t=31s">https://www.youtube.com/watch?v=n8Lj8C0sVHs&amp;t=31s</a>)</li> <li>Selected for Swiss Nepal Technology Transfer Workshop 2018 by Embassy of Switzerland in Nepal &amp; NepSAS.</li> </ul>	
Link	Testing: <a href="https://www.youtube.com/watch?v=5bvhfFUoqOA">https://www.youtube.com/watch?v=5bvhfFUoqOA</a> Overall Making: <a href="https://www.youtube.com/watch?v=T2MDqRL3sjA">https://www.youtube.com/watch?v=T2MDqRL3sjA</a>	

## REPORTS AND PUBLICATIONS

Project Report	'To Devise Manual Stair Climbing Wheelchair', IOE, Thapathali Campus, 2017
Journal	'Solid Modelling and Simulation of Gripper', Journals of Innovations in Engineering Education Vol. 1, Tribhuvan University, Institute of Engineering, Thapathali Campus, 2017
Article	'Devising a Manual Stair Climbing Wheelchair', Industrial Vision 5.0, Tribhuvan University, Institute of Engineering, Thapathali Campus, 2018

## MEMBERSHIP

Robotics Club	Robotics and Automation Center, Thapathali Campus, Thapathali, Kathmandu (Nepal)
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## DESIGN/ANALYSIS SOFTWARE SKILLS

Softwares	SOLIDWORKS	Catia	ANSYS	AutoCAD
Skills	<ul style="list-style-type: none"> <li>-Part/Assembly Design</li> <li>-Drafting</li> <li>-Surface Design</li> <li>-Sheetmetal Design</li> <li>-Weldment</li> <li>-Solidworks simulation</li> <li>-Motion study</li> <li>-Motion Dynamics</li> <li>-Rendering, Appearance, Decals</li> <li>-Design Library/Toolbox</li> </ul>	<ul style="list-style-type: none"> <li>-Part/Assembly Design</li> <li>-Drafting</li> <li>-DMU Kinematics</li> <li>-Generative Sheet Metal /Shape Design</li> <li>-Wireframe/Surface Design</li> <li>-Sketch Tracing</li> <li>-Lathe/Prismatic Machining</li> <li>-Generative Structural Analysis</li> <li>-Plant Layout</li> <li>-Ergonomics/Human Builder</li> <li>-Rendering</li> </ul>	<ul style="list-style-type: none"> <li>-Static Structure</li> <li>-Rigid Dynamics</li> <li>-Transient Structural</li> <li>-Explicit Dynamics</li> <li>-Steady-State Thermal</li> <li>-Fluid Flow (Fluent/CFX)</li> <li>-Linear Buckling</li> <li>-Modal</li> <li>-Design Optimization</li> <li>-FE Modeller</li> </ul>	<ul style="list-style-type: none"> <li>-2D</li> <li>-3D Modelling</li> <li>-Drafting/Plot</li> </ul>

## PERSONAL SKILLS

Language(s)	NEPALI (MOTHER TONGUE)	English	Newari	Hindi
Job-related skills	<ul style="list-style-type: none"> <li>- Software skill on SOLIDWORKS, Catia, AutoCAD, ANSYS, MS Office, Photoshop, Proteus, Premier Pro</li> <li>- Basic knowledge on Arduino programming, motor, robot actuator, etc.</li> <li>- Mechanical design and fabrication skills (workshops, machine shop and robotics)</li> <li>- Basic Computer, Electronics and Electrical skills</li> <li>- Quick familiarization with machines, computer software, electronic devices, etc.</li> <li>- Repairing abilities, skills and sense of mechanical objects and mechanism</li> </ul>			

## **CURRICULUM VITEA**

Communication skills	<ul style="list-style-type: none"><li>- Effective and commanding communication skills (both verbal and written)</li><li>- Report writing and documentation skills</li><li>- Independent content creating skills</li></ul>			
Organizational / Managerial skills	<ul style="list-style-type: none"><li>- Efficient leadership among people of same interest</li><li>- Effective material handling skills</li><li>- Proficient information processing skill</li><li>- Proficient problem solving skill</li></ul>			
Other skills	<table><tr><td><ul style="list-style-type: none"><li>- Fine arts, Photography, Video editing</li><li>- Independent / self / quick learning</li></ul></td><td><ul style="list-style-type: none"><li>- Literature writing (Eng., Nep)</li><li>- Motivating and Supervising</li></ul></td><td><ul style="list-style-type: none"><li>- Ability to set up trust</li><li>- Creativity</li></ul></td></tr></table>	<ul style="list-style-type: none"><li>- Fine arts, Photography, Video editing</li><li>- Independent / self / quick learning</li></ul>	<ul style="list-style-type: none"><li>- Literature writing (Eng., Nep)</li><li>- Motivating and Supervising</li></ul>	<ul style="list-style-type: none"><li>- Ability to set up trust</li><li>- Creativity</li></ul>
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## **REFERENCES**

Er. Raj Kumar Chaulagain, HOD, Dept. of Automobile and Mechanical Engineering, Thapathali Campus. (+977 9841469752), rajkrc12@gmail.com