

Ruchitkumar Shoemaker

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Professional Experience

12/2021 – 09/2022
Dresden, Germany

Robotics Project Intern & Master Thesis, SmartLab Solution GmbH

- **Collaborative Robot** Assisted Workflow for Sorting Bio Samples in a Clinical Laboratory (**programmed pick-and-place task**)
- Used **Modbus TCP/IP** and **Serial communication** for data transfer
- Construct the gripper jaws and the sample holder according to the requirements
- Use of the **ERP software for Lab Automation** called Laboperator software for integration of workflows and to initialize the robot remotely.

01/2021 – 05/2021
Berlin, Germany

Research and Development Intern, Tomorrow Biostatic GmbH

- Creation of mathematical models, which are implemented with **CAD design in SOLIDWORKS** for a prototype of the proposed solution.
- Proposal of a manufacturable model of the design with the required materials and dimensions
- Preparation of a report justifying the project mechanics and the mathematical models in **MATLAB software** for presentation purposes.

Education

10/2019 – 01/2023
Schmalkalden, Germany

Mechatronics and Robotics Engineering (Master of Engineering), University of Applied Science Schmalkalden

Focus Topics: -

- **Robotics Vision**
- Drives for automation
- **Communication system**
- Automation control

06/2016 – 06/2018
Ankleshwar, India

Thermal Engineering (Master of Engineering), Shroff S R Rotary Institute of Chemical Technology

Focus topics: -

- Advanced Thermodynamics and Heat Transfer
- Advanced Fluid Mechanics
- Computational Fluid Dynamics
- Design of Heat Exchangers

07/2012 – 07/2016
Ankleshwar, India

Mechanical Engineering (Bachelors of Engineering), Shroff S R Rotary Institute of Chemical Technology

Focus topics: -

- **Computer Aided Design**
- **Control Engineering**
- Material Science and Metallurgy
- **Automotive Engineering**

Projects

05/2021 – 09/2021	To design, manufacture and assembled the Parts of XY Pen plotter which can draw ‘Nikolaus’ house, (M.Eng)(Mechatronics and Robotics) <ul style="list-style-type: none"> • XY Pen plotter mechanism: - To draw a Nicholas house • Modelling Software: - Solid Works • Parts made in: - 3D Printing Machine • Programming: - Arduino UNO
08/2017 – 06/2018	To increase the distillate water productivity in single slope solar still with SDC collector and energy storage material, (M.Eng)(Thermal Engineering) <ul style="list-style-type: none"> • Energy storing material used: - Brick pieces, Practical Experimental Prototype developed and tested • Numerical modellig: - MATLAB • Mathematically and practically concluded that we can improve the productivity of solar stills through the use of Brick pieces and solar dish collector.
09/2020 – 12/2020	To design and build a wheelchair control system that allows the paralyzed users to steer the wheelchair without using any external assistant, (M.Eng)(Mechatronics and Robotics) <ul style="list-style-type: none"> • The movements of this wheelchair are controlled by head motions with the use of gyroscope sensor. • Experimental prototype has been developed • Programming done in Arduino UNO
01/2016 – 06/2016	An examination of the change in shape, material and analysis of the leaf spring Analysis with ANSYS software(B.Eng)(Mechanical Engineering) An examination of the change in shape, material and analysis of the leaf spring Analysis with ANSYS software, (B.Eng)(Mechanical Engineering) <ul style="list-style-type: none"> • For Modelling: - SOLIDWORKS Software • Analysis:- Structural Analysis in Ansys Software • Composite Material used:- E glass / Epoxy material

Skills

SOLIDWORKS	● ● ● ● ●	PYTHON	● ● ● ● ●
M S Office	● ● ● ● ●	TM Flow	● ● ● ● ●
MATLAB Simulink	● ● ● ● ●	ANSYS (CFD & Structural Analysis)	● ● ● ● ●
PLC	● ● ● ● ●		

Languages

English	● ● ● ● ●	German	● ● ● ● ●
Hindi	● ● ● ● ●	Gujarati	● ● ● ● ●

Declaration

I hereby declare that the details and information given above are complete and true to the best of my knowledge.

Recht
