

# HEMAN

[linkedin.com/in/heman-saini-5b2309189](https://www.linkedin.com/in/heman-saini-5b2309189)

<https://heman15.github.io/R/>

[sainiheman.94@gmail.com](mailto:sainiheman.94@gmail.com)

+1 (951)-548-4124

## EDUCATION

### Master's in Robotics, Automation and Mechatronics

Sept 2023-Present

University of California, Riverside

Major: Robotics, Focus: Computer Science

### Bachelor of Technology in Mechanical Engineering

Jul 2017-Jul 2021

University Institute of Engineering and Technology, Maharshi Dayanand University, Rohtak

Percentage: 74%

## EXPERIENCE

### EFEV Charging Solutions Pvt Ltd., Sonipat

Dec 2022 - Sept 2023

Design Engineer (Research and Development Department)

- Developed L3 and L5 category vehicles using CAD software and managed EBOM and MBOM on ERP to optimize manufacturing.
- Collaborated with the NPD team to select materials and improve products, leveraging material science expertise.
- Managed R&D and production workflow, ensuring that product matches the ICAT guidelines for vehicle production.

### Moog advance systems Pvt. Ltd., Gurgram

Mar 2022 - Nov 2022

Mechanical Design Engineer (Research and Development Department)

- Designed and developed 3D models of armoured vehicles steering assemblies and military weapons using cad software.
- Researched and analyzed customer design proposals to assess design possibility.
- Prepared sheet metal fabrication and machining drawings with meticulous attention to detail.
- Created detailed design documentation for efficient manufacturing.

### Centroid Automotive Pvt. Ltd., Karnal

Nov 2021 - Feb 2022

Surface Design Engineer intern (Research and Development Department)

- Worked with the manufacturing team to develop and manufacture products.
- Collaborated with sketching teams and generated ClassA surface with cad software.
- Developed parts of two-wheelers by considering the constraints of thermoforming technique.
- Designed moulds of surfaces by considering the specification and limitation of the CNC machine.

### Greenvolt Mobility LLP, Ahmedabad

June 2021 - Nov 2021

Mechanical Engineer Intern (Research and Development Department)

- Develop qualitative testing machines and devices to improve and optimize motor vehicle performance.
- Designed a replica of data collection device to develop the autonomous kit for Indian roads.
- Designed data acquisition system for Dc motor, Electric Vehicle Batteries system to accurately measure the changes in the performance of the motor, controller, and battery pack.
- Worked on ergonomics of electric two-wheelers.

### Center of Digital Excellence Pvt. Ltd., Noida

Feb 2021-April 2021

3D Design and Assembly Engineer Intern (Research and Development Department)

- Designed and developed low-cost DIY cartesian and core-XY fused deposition modeling 3D printer.
- Engage with customers to explore and understand needs for 3D printing, manufacturing, and innovation.

**Honda two-wheeler Pvt. Ltd., Manesar**

June 2019- July 2019

Trainee

- Inspected wiring harness in Honda Shine(15cc), Honda CBR150, and Hornet.
- Experience in complete manual assembly of African Twin.
- Experience in activa and Honda Shine(15cc) engine assembly.

## PROJECTS

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### **Fabrication of FDM 3D Printer** University project

*Guidance: Dr. Deepak Chhabra*

- The mechanical and electrical parts have been purchased online for the fabrication of a DIY FDM 3D printer along with some parts manufactured by the 3D printer itself, making the printer self-replicating.
- Various raw materials, including ABS, PLA, PETG, NYLON, HDPE, PC, PP, and others, are combined with ingredients and nanofibers to enhance their mechanical properties for thermoplastic filament production. The process parameters are optimized for maximum efficiency and performance, considering the thermodynamics to maintain optimal temperature and pressure conditions. This results in high-quality thermoplastic filaments with superior mechanical properties.
- Successfully improved the surface finishing of the 3D object by solving the encountered problems while printing like warping, material blockage, nozzle sensor, etc.

### **Deep Learning Project (Class Project)**

- Developed a system that can determine if a driver is paying attention while driving or if they are doing something distracting, such as looking away or using a phone. When the system notices these actions, it will be able to step in and help when the driver's focus is taken elsewhere.
- Developed algorithms to enable immediate reaction to dangerous behaviors by sending out alarms and feedback.

## SKILLS

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### **Software Skills**

Solidworks (certified from LinkedIn learning), Autocad (certified from LinkedIn learning), Autodesk Fusion, Key shots, Cura, FEA

### **Programming Skills**

Python, Arduino programming, DevOps tools (docker, git, AWS), Computer vision, Machine learning, CNC-G Code, HTML, C++, Ros, Matlab, Latex, CSS, Java,

### **Operating systems**

Linux, Windows, RaspberryPi

### **Technical Skills**

Welding, Lathe machine, Sheet metal, CNC Machine, 3d-printer

## EXTRACURRICULAR ACTIVITIES

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### **High school**

Blue Bells Sr. Sec. School, Naraingarh

- State-level athlete as well as district and high school champion in athletics
- Appointed as a sports captain of the school's house team.

### **Bachelor's degree**

University Institute of Engineering and Technology, Maharshi Dayanand University, Rohtak

- Secured 1st position in Hackathon organized by CipherSchools on 9th August 2020.
- Secured 2<sup>nd</sup> position in a science competition organized by the department of environment of science.
- Secured 1<sup>st</sup> position in inter-college badminton championship in 2017 and 3<sup>rd</sup> position in 2019.