

# Sanjeev Lamichhane

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 Sanjeev Lamichhane

## Education

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### Tribhuvan University, IOE, Pulchowk Campus

Bachelor in Mechanical Engineering

Lalitpur, Nepal

2019 - 2024

- **Elective-I:** Operation Research/Management Science
- **Elective-II:** System Design And Simulation
- **Elective-III:** Advanced Mechanical Design

### SOS Hermann Gmeiner School

- Higher Secondary Education (10+2) – Science

Bhaktapur, Nepal

2017 - 2019

### Everest Higher Secondary Boarding School

- Secondary Education Examination

Kathmandu, Nepal

2017

## Work Experience

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### Fablab Nepal (Technical Assistant)

Design and Fabrication

(April 2025 - Present)

- CAD design and modeling in SolidWorks, Vetric Aspire, CorelDraw, and slicers.
- Design for and operation of CNC laser, 3-axis CNC router, 3D printers, vinyl cutter, and PCB milling.
- Conducted hands-on training sessions for teachers, students, and other participants on 3D printing, laser cutting, and basic electronics.
- Independently designing and developing a personal chess-playing robot project.

### Multiscope Pvt Ltd

Energy Audit, Energy Planning and Management, Energy Optimization and Decarbonization

(June 2024 - April 2025)

- Mechanical Engineer on APEC/WECS-supported sustainable energy projects.
- Developed Municipal Energy Plans supporting the transition from traditional fuels to modern and efficient energy technologies; conducted energy modeling and GHG projections.
- Performed energy audits and contributed to national Energy Audit Guidelines (2024).

## **Ropeway Nepal**

*Design And Modeling Of Ropeway Assembly  
Internship (Oct 2023 - Dec 2023)*

- 3D modelling of ropeway gondola.
- 3D modelling of ropeway chassis.
- Design of ropeway driving mechanism.

## **Projects**

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### **Design and Fabrication of Manufacturing Machine for Bamboo Panel Production Process**

B.E. Final Year Project

- Designed and developed an automated panel production system.
- Converted a bottle jack into a press by designing an innovative curved cam follower, enabling customized motion of the follower for enhanced precision and efficiency.
- Performed structural and thermal analysis of mechanical systems using ANSYS
- Conducted strength testing of the produced bamboo panels using a universal testing machine (UTM).

### **Design and Fabrication of an Injection Molding Machine**

Fablab Nepal

- Designed the machine in SolidWorks, creating a complete model ready for fabrication.
- Prepared shop drawings for metal parts and cut wooden components using a CNC router for precise assembly.
- Integrated heating, electrical, and control components.
- Assembled and tested the machine for reliable operation.

### **A Comparative Study of Electrolyte Performance in Laser-Induced Graphene Supercapacitors**

BSc Final Year Project

- Optimized laser parameters for production of graphene.
- Fabricated LIG supercapacitor electrodes on polyimide tape.
- Assembled supercapacitors using acidic, basic, and neutral aqueous electrolytes.
- Compared performances of the supercapacitors.

### **Go-Kart Design and Fabrication | 4th year, B.E.**

- Engineered a robust chassis capable of accommodating a powerful 150cc TVS Apache four-stroke bike engine, enabling speeds of up to 85 km/hr.
- Performed static and impact structural analysis of chassis using ANSYS,
- Implemented innovative features such as adjustable camber angle and chain adjustment, enhancing maneuverability and customization for optimal performance on the racetrack.
- Secured first place in the Gokart race organized by Mechtrix.

### **Go-Kart Design and Fabrication | 3rd year, B.E.**

- Engineered a robust chassis capable of accommodating a powerful 180cc Bajaj Pulsar four-stroke bike engine, enabling speeds of up to 75 km/hr.
- Secured first place in the Go-kart race organized by Mechtrix.

### **Go-Kart Design and Fabrication | 1st year, B.E.**

- Designed and fabricated high-performance go-kart.
- Participated in Go-Kart race organized by Mechtrix 2076.

### **Automatic fin gate**

- Design of automatic fin gate.
- Excellent aesthetics with minimal trajectory and weight balanced mechanism for optimal efficiency.
- Innovative mechanisms and designs.

### **Suffosafe: Automatic Bathroom Smoke Evacuation System**

- Fabricated SuffoSafe, a safety solution prompted by a suffocation incident, swiftly removes excess vapour to ensure people's safety by enhancing bathroom ventilation and effectively detecting and mitigating smoke buildup.

## **Honors and Awards**

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### **BE Level 3D Design Hackathon (Mechtrix 2080) |SOMAES, IOE Pulchowk**

- Awarded 2nd runner-up for automatic gate design.

### **Go-Kart winner (Mechtrix 2080) |SOMAES, IOE Pulchowk**

- Awarded for 1st position for national-level Go-Kart race.

### **Go-Kart winner(Mechtrix 2079) |SOMAES, IOE Pulchowk**

- Awarded for 1st position for national-level Go-Kart race.

## **Skills**

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**Machining Tools:** Lathe, Drilling, CNC Router, CNC Laser Cutter, Power Cutter, Welding, PCB Milling.

**Softwares:** Solidworks , ANSYS , Autocad, Python, Vectric Aspire, Coreldraw, 3D Printing Slicer, SPSS, LEAP, Excel.