Upendra Gautam

Mechanical Engineering Student

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Profile

"Hi 👋! I'm an Engineering Student with fervent passion for Aviation and Technology. I have this tenacity of detail-oriented approach in solving complex problems and I believe in contributing to projects that might end-up changing the way we live our lives. There exists a vacuum in-between industry and academia which I refer as "Techno-ether" which embargoes orthodox wisdom in infiltration of a practical setting. So, it's essential for young mind to be groomed from an experienced one in building the innovators of tomorrow."

- a young mind

Education

BE Mechanical Engineering *Institute of Engineering, Pulchowk Campus* **Pulchowk, Lalitpur** *2021-2025*
Relevant Courses: Introduction to Engineering, Calculus, Thermodynamics & Heat Transfer, Numerical Analysis, Fluid Mechanics & Machines, Engineering Mechanics

+2 Physical Sciences *Kathmandu Institute of Science & Technology* **Kathmandu, Nepal** *2018-2020/21*
Relevant Courses: Pre-Calculus, Introductory Physics, Introductory Chemistry

Research and Interest Areas

Computational Mathematics - Combinatorics - Statistics - Engineering Design - Digital Strategy - Aircraft Dynamics

Experience

Design Thinking Workshop & Advanced Engineering Materials for Extreme Environment *11 - 13 Dec 2024*

- Volunteered as a member of the organizing committee to ensure the event's success
- Oversaw IT operations, managing presentations and electronic equipment for seamless execution
- Oversaw selection and acquisition of souvenirs for incoming guests

Department of Design, IIT Roorkee *(IIT Roorkee)* *Sept 2024 - Oct 2024*

- Collaborated with faculty and PhD researchers to develop a frugal, ergonomic sugarcane planter tailored for small-scale farmers (<10–15 bighas)
- Conducted field visits and farmer interviews to understand challenges in manual planting and gather user requirements
- Applied design thinking principles to conceptualize and fabricate a single-stick sugarcane dropping mechanism
- Gained hands-on experience in user-centric product design, agricultural mechanization, and mechanical prototyping

Eco-Village Development Project South-Asia District, *(CRT-N)* *Nov 2023*

- Served as an Assistant and Interlocutor for External Project Evaluator
- Facilitated communication between governmental agency, public and project evaluator
- Aided project evaluator with preliminary documentation
- Drafted report on 3 day Project Assessment Expedition

Kathmandu Aviation Museum, *(KAM)* *Oct 2018 - Nov 2018*

- Assembled Plastic Aircraft Models to go on display inside the A330 Museum.
- Engaged in discussions regarding the current scenario of aviation in Nepal, contributing insights and ideas to enhance the industry.
- Facilitated activities to generate excitement about air travel among visitors, fostering a deeper appreciation for aviation history and innovation.

Projects

Truss Analysis using FEM *2024*

- Implemented User Interface for easy interaction
- Analysis was done using Finite Element Analysis

Sudoku Solver *2022*

- Console Application for solving soduku
- Implemented back-tracking algorithm

GUI Calculator *2021*

- Implemented Calculator utilizing Tkinter module
- utilized Reversed Polish notation for calculation

3D Zombie Apocalypse *2020*

- Implemented infinite route traversal
- Implemented Pause/Resume, Menu window
- Added 3D kill animation for Zombie

Courses & Certifications

Stanford Code in Place, *(S-CIP)* *Apr 2024 - May 2024*

- Successfully completed Stanford's Code in Place 2024 Python
- learned Algorithmic approach in analyzing a problem

Samsung Innovation Campus, *(SIC)* *Jan 2024 - Apr 2024*

- Introduction to Python Programming Language
- Learned various algorithmic approach to problem solving
- Data Visualization and Data Filtering with numpy and matplotlib
- Built a GUI application for Analysis of Truss using Finite Element Method

Skills

- **Data Visualization:** Numpy, Pandas, Scikit-learn
- **Programming Languages:** C, Java, C#, Python, and Shell-scripting
- **Software:** Git, Adobe Photoshop, SQL
- **Engineering:** AutoCAD, Solidworks, Ansys [Learning phase]
- **Soft Skills:** Presentation, Planning, Organized, Creative Problem-Solving, Teamwork, Active Listening, Analytical Thinking

Languages

- **Nepali** [Native]
- **English** [Proficient]
- **Hindi** [Proficient]