

Ranjan Sharma

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EDUCATION

Gandhi Institute of Technology and Management (GITAM), India

2023 - Present

Bachelor of Technology in Computer Science and Engineering (B.Tech CSE)

- CGPA: 9.37

St. Xavier's College, Nepal

2020 - 2022

High School Degree

- Cambridge International GCE AS and A Level

PROJECTS

Autonomous Vehicle Simulation | *Rust, Bevy, Rapier2D*

Jan 2023 – Present

- Developed a 2D simulation for autonomous vehicle control with AI for adaptive steering and pathfinding.
- Enhanced vehicle decision-making using genetic algorithms for evolving behavior over time.
- Integrated realistic vehicle dynamics and collision detection with Rapier2D.
- [GitHub Link](#)

Hashword CLI & Web Application | *Rust, TypeScript, Argon2id*

Apr 2022 – Sep 2022

- Created a secure password generation tool available as a CLI and web application.
- Implemented strong password generation using Argon2id hashing for robust security.
- Enabled easy password copying and secure input for both the CLI and web versions.
- [GitHub Link](#) | [Live Demo](#)

Custom-Themed Web Application | *React, Redux, MUI, TypeScript*

Jun 2021 – Dec 2021

- Developed a user-friendly web application inspired by Netflix, featuring smooth navigation.
- Implemented custom themes and responsive design using MUI for a personalized user interface.
- Managed state effectively with Redux and optimized performance with code splitting.
- [GitHub Link](#) | [Live Demo](#)

Code2Image - Code Snippet Visualization Tool | *ReactJS, NextUI, TailwindCSS, Zustand*

Nov 2020 – Feb 2021

- Built a tool to convert code snippets into customizable images with various themes and syntax highlighting.
- Added customization features for font styles, light/dark modes, and easy export as PNG or SVG.
- Ensured a smooth user experience with responsive design and quick preview options.
- [GitHub Link](#) | [Live Demo](#)

3D SHM Visualization with p5.js | *p5.js, WebGL, HTML, CSS, JavaScript*

Aug 2021 – Nov 2021

- Developed a real-time, interactive 3D visualization of Simple Harmonic Motion (SHM) using p5.js.
- Built a responsive user interface with HTML, CSS, and JavaScript for easy control over animation speed, toggling, and visual settings.
- Enabled smooth camera interaction and dynamic perspectives with p5.EasyCam, using WebGL for efficient 3D rendering.
- [GitHub Link](#) | [Live Demo](#)

TECHNICAL SKILLS

Coding: Rust, Python, R, JavaScript, HTML, CSS, C, AWS

Achievements: Leetcode contest rating: **2,242**; global ranking: **4,814/615,883**, placing in the top **0.83%**. Earned the **Knight** badge. Profile: [Leetcode Profile](#). Discovered over **100** preliminary asteroid detections using Astrometrica.

Certifications: Meta Back-End Developer Professional Certificate, Meta Front-End Developer Professional Certificate, Introduction to Cyber Security Specialization by NYU, IBM Cybersecurity Analyst Professional Certificate

Languages: English, Hindi, Nepali, and Maithili

PUBLICATIONS

Near-Earth Objects (NEO) 2030: Forecasting the Future of NEO Studies and Youth Involvement for Sustainable Development Goals (SDGs)

Space Generation Advisory Council - Near Earth Object (NEO), GLEX-2021

- Provided insights into current trends, policies, and potential solutions for planetary protection, emphasizing the importance of involving youth in the development of NEO research.