KUSHAL PATHAK

Gaindakot, Nepal | +977 9812209974 | kushalpathak80@gmail.com | https://github.com/Kushal-Pathak | www.linkedin.com/in/kushal-pathak

SUMMARY*

Final-year B.Sc. in Computer Science and Information Technology (BSc. CSIT) student at Birendra Multiple Campus with a strong foundation in web development, object-oriented programming, RESTful APIs, simulation engineering, and graphics programming. I've built and deployed full-stack web applications, simulations and am expanding my skills by consistently practicing, building projects, and seeking feedback from seniors. I'm passionate about my chosen technology stacks, have the drive to meet goals, and enjoy working in a team. I've led and mentored student communities and love giving back through open-source and community projects.

EDUCATION

Birendra Multiple Campus (TU), BSc. in Computer Science and Information Technology   *2021 – Present*
Percentage: 76% in aggregate till date
Relevant Coursework: Object Oriented Programming (OOP), Data Structures and Algorithms (DSA), Operating Systems, Networking, Database Systems, Software Engineering, Calculus, Linear Algebra, Statistics, Numerical Methods, Neural Networks, Core Artificial Intelligence/Machine Learning Concepts, Physics, Computer Graphics

PROJECTS

Digital Logic Simulator

- Used HTML, CSS, JavaScript, PHP, MySQL, Bootstrap
- Interactive tool for creating, connecting, and simulating logic gates in real time
- Supports cloud and local storage for saving circuits
- Allows users to clone and edit shared circuits for experimentation
- Optimized performance with a **custom hash table algorithm**, reducing baseline worst-case simulation time by **50%**
- Includes user authentication, profile management, and circuit sharing

Password Manager

- Used HTML, CSS, JavaScript, PHP, MySQL
- Developed a secure web app for storing and managing passwords
- Users log in with a master password to access saved credentials
- Features a simple dashboard for adding, editing, and organizing passwords
- Uses **AES-256 encryption** to keep passwords safe

Global Chat App

- Used HTML, CSS, JavaScript, Node.js, Express, WebSocket
- Developed a real-time chat application with **WebSocket** for instant two-way messaging
- Allows multiple users to send and receive messages smoothly
- Features a lightweight and efficient server for handling connections
- Provides a simple and responsive UI for a smooth chat experience

FREELANCING EXPERIENCE

Simulation Developer   *2024 – Present*

Developed a **magnetic field simulation** to analyze ore depth using object-oriented design and technologies like HTML, CSS, JavaScript, and p5.js enabling foundational research for ore-detecting devices.

Built a **seismic wave propagation simulator** with HTML, CSS, JavaScript, and p5.js to help geologists study wave behavior, improving accuracy through detailed wave equation analysis.

LEADERSHIP EXPERIENCE

Birendra Open Source Club   Chitwan/Nepal
President (2 Tenures)   *Mar 2023 – Sep 2024*

- Organized **15+ events**, including regional hackathons and a country-level mapathon.
- Handled task allocation, role division, and conflict resolution to keep the team focused and effective.
- Oversaw resource allocation, finance management, and logistics to ensure smooth operations.
- Achieved over **45% increase in student participation** through targeted outreach and inclusive event planning.
- Mentored new members in open-source tools, promoting hands-on learning and collaboration.
- Built relationships with renowned IT professionals, fostering knowledge-sharing and collaboration.
- Maintained partnerships with other clubs, communities, and colleges for broader reach.

CERTIFICATIONS & ACHIEVEMENTS

Certifications:
- CS50x – Harvard University
- Complete Web Development Bootcamp – Dr. Angela Yu
- Machine Learning Specialization – Andrew Ng
- Microsoft Office Specialist for Office PowerPoint 2013 – Microsoft

Awards:
- Best Science Project Award – District Education Department
- Second Place, Provathon 2021 (Regional) – CSITAN Chitwan
- Best Presentation Award (+2 Level, 2018) – Gurukul College

TECHNICAL SKILLS

Programming Languages: C/C++, C#, JavaScript, Python, PHP
Web Technologies: HTML5, CSS3, JavaScript (ES6+), Node.js, Express
Databases: MySQL, MongoDB
Graphics & Simulation: p5.js, HTML Canvas, SFML
Tools & Platforms: Git, GitHub, CMake, Postman, Figma
Capabilities: Building Full-Stack Websites, Graphics Visualizations, and Interactive Simulations

OTHER

Interests: Creating YouTube content, developing simulations and games, analyzing the stock market, cycling, gaming and exploring different cuisines.
Languages: Nepali (Native), English (Fluent)