PRAJU KHANAL

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SUMMARY

Computer Engineering student with a passion for developing web applications, solving problems, and contributing

to meaningful projects. Skilled in the MERN stack and creating practical, user-focused solutions.

EXPERIENCE

Fellow | Women Leaders in Technology (WLiT)   **Oct 2024 - March 2025**

- Gained hands-on experience with JavaScript, Node.js, Express, MongoDB, Git, and EJS.
- Developed SootheSphere, a sound therapy app with personalized soundscapes based on user mood and dynamic interfaces for mood tracking and journaling.
- Attended leadership sessions on goal setting, values, empathy, and time management.

Contributor | GirlScript Summer of Code   **Oct 2024 – Nov 2024**

- Identified and raised key issues in open-source projects, improving UI, search functionality, and message management.
- Proposed and documented feature enhancements such as disappearing messages, search filters, and resource categorization.
- Collaborated with international teams to refine projects through issue tracking and discussions.
- Actively contributed to GSSoC and Hacktoberfest, gaining experience in open-source workflows, Git, and version control.

EDUCATION

Everest Engineering College, Pokhara University   **2021-2025**

Bachelors in Computer Engineering

St. Mary's Higher Secondary School, National Examination Board (NEB)   **2017-2019**

High School Diploma (Science)

TECHNICAL SKILLS

- **Programming:** JavaScript, C, C++
- **Web Development:** MERN Stack (MongoDB, Express, React, Node.js)
- **Databases:** MongoDB, MySQL, PostgreSQL
- **Tools & Platforms:** Git, D3.js, OpenStreetMap, Socket.io

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PROJECTS

Maze Generator (MERN Stack, D3.js)

- Developed an interactive maze generator using MongoDB, Express, React, and Node.js.

- Implemented maze generation with Kruskal's and Prim's algorithms.
- Visualized maze creation and performance metrics using D3.js.
- Implemented heuristic-based Depth First Search (HDFS) for maze solving.

Text Compressor Using Huffman Encoding (C++)
- Designed and implemented a lossless file compression tool using Huffman encoding algorithm, reducing storage size efficiently.
- Integrated file I/O and directory management with user-friendly feedback using QMessageBox.
- Built a custom Huffman Tree structure and encoded/decoded data using frequency-based binary codes.

DocuFind (OpenCV)
- Developed an adaptive system for reliable word detection in various document images, starting with an optimized preprocessing pipeline.
- Compared different methods (pixel-based and feature-based) to accurately find words in challenging, real-world documents.
- Tested the system across various types of degraded images (like crumpled, low contrast, and different fonts) to ensure broad effectiveness.
- Created an "Auto" mode that smartly chose the best approach, achieving up to 98.59% accuracy in finding words.

Gantabya (OpenStreetMap)
- Developed a hyper-localized travel app for Nepali travelers.
- Integrated OpenStreetMap (OSM) for interactive trail mapping.
- Enabled users to add and share trails and checkpoints.
- Implemented real-time weather updates using third-party APIs (e.g., OpenWeatherMap).
- Contributed to backend API development and UI design enhancements.

CERTIFICATIONS

Postman API Fundamentals Student Expert – Postman (Oct 2024)
JavaScript Intermediate – Programiz (May 2025)
JavaScript Basics – Programiz (May 2025)
JavaScript for Beginners – Simplilearn (Oct 2024)
Recursion with JavaScript – Programiz (May 2025)

ACHIEVEMENTS

Best Project Award – Maze Generator (MERN, D3.js)
1st Place – Intra-College Coding Competition
Selected Fellow – WLiT Fellowship 2024/25
Contributor – GirlScript Summer of Code (GSSoC)

REFERENCES

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