Mahim Rawal

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Education

TU, Khwopa College of Engineering Bhaktapur, Nepal
Bachelor of Computer Engineering *2021 - 2025*

- **Relevant Coursework:** Data Warehousing, Data Mining, Big Data, Database Management Systems, Data Structures & Algorithms, Object-Oriented Programming, Artificial Intelligence , Computer Network and Securities

Projects

Video Hosting Backend API | *Node.js, Express, MongoDB, JWT* 2025

- Engineered a scalable RESTful API using Node.js, Express, and MongoDB, utilizing aggregation pipelines to track user watch history.
- Implemented secure, stateless authentication using JWT (access & refresh tokens) and middleware to protect sensitive endpoints.
- Integrated Cloudinary SDK for efficient cloud-based video storage, ensuring optimized media upload and retrieval speeds.

Dynamic Blog Platform | *Node.js, Express, MongoDB, EJS* 2025

- Developed a server-side rendered (SSR) application using Node.js and Express, utilizing EJS templating for dynamic content generation.
- Architected a MongoDB database with Mongoose schemas to handle data persistence and input validation for articles.
- Implemented full CRUD functionality and RESTful routing to manage blog posts effectively.

Lip Reading Using CNN | *Python , Pytorch , Streamlit* 2024

- Developed a hybrid Deep Learning model combining 3D CNNs for spatial feature extraction and BiLSTMs for temporal sequence analysis
- Developed an interactive web interface using Streamlit, allowing users to upload custom video files for real-time speech decoding.
- Published research paper on this project: Researchpaper

Detection of Parkinson's Disease Using Deep Learning | *Python , Pytorch* 2024

- Engineered a diagnostic system analyzing both handwriting images and voice recordings for early disease detection.
- Implemented VGG-16 and LeNet-5 CNN architectures to accurately classify tremor patterns in spiral drawings.
- Applied Random Forest, SVM, and Decision Trees to process audio data and identify vocal impairments.

To-do list | *JavaScript, Html ,CSS* 2023

- Designed a logic-driven frontend using Vanilla JavaScript, enabling users to manage tasks with specific due dates and priority levels.
- Implemented conditional rendering logic to dynamically assign color-coded visual indicators (CSS classes) based on task urgency.
- Utilized LocalStorage to persist complex task objects (including date and priority metadata) across browser sessions.

Technical Skills

Programming Languages: JavaScript, HTML, CSS, SQL (Intermediate), Python (Pandas, NumPy),
Data & Analytics: MongoDB, MySQL, PostgreSQL
Frameworks/Tools:Express.js, Mongoose, Streamlit , TensorFlow, OpenCV
Specializations: Backend Development, Database Management ,Scalable RESTful APIs,Machine Learning Algorithms

Certifications

Oracle Cloud Infrastructure (OCI) Generative AI Professional