

Bimesh Poudel

Software Developer / Computer Vision

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SUMMARY

Software developer, B.E. Computer Science, 2+ years freelancing — shipping projects end to end: requirements, UI, REST API, schema, and deploy. React/TypeScript frontends on Node.js, NestJS, and PHP backends over MySQL and PostgreSQL, plus real-time computer vision in production — a self-hosted YOLOv8 fall-detection service and MediaPipe classifiers that run entirely in the browser. Reads code for defects as readily as features: closed an unauthenticated admin panel and a race condition that oversold a booking system. Salesforce Double Star Ranger. Everything live at bimeshpoudel.com.np.

SKILLS

Languages: JavaScript, TypeScript, Python, PHP, Java, C, C++, SQL, HTML5, CSS3
Frontend: React, Tailwind CSS, Vite
Backend: Node.js, Express.js, NestJS, PHP, Prisma, REST APIs, Socket.IO
Databases & Security: MySQL, PostgreSQL, schema design, transactions, access control, password hashing
Machine Learning / Computer Vision: YOLOv8, OpenCV, ONNX Runtime, MediaPipe
Tools & Platforms: Git, GitHub, Docker, Vercel, Android (Kotlin/Java)

EXPERIENCE

- Freelance Software Developer** — Self-Employed, Remote 2024 – Present
- Shipped 8+ personal and client projects to production on Vercel with GitHub-based CI/CD, including three live machine-learning demos (see Projects).
 - Operate my own infrastructure: custom domain with microfrontend routing, Dockerized native-dependency services, and self-hosted ML models.
- Frontend Developer** — NTTS Nepal & KTM Sale 2022 – 2024
- Built and maintained production frontend interfaces for two company web platforms while completing my engineering degree, shipping HTML5/CSS3/JavaScript features in an established team codebase.

PROJECTS

- Human Anomaly Detection System** bimeshpoudel.com.np/human-anomaly-live-demo
- Final-year project, restored and rebuilt. Real-time fall detection from live video: YOLOv8 pose model in ONNX with a posture classifier I built from its keypoint geometry, calibrated on 4,924 images — chosen over a 3-class detector I trained on 8,340 images that keyed on scene appearance, not body pose. Runs in-browser or server-side.
- Lekh Patro — Nepali Typing, OCR and Calendar** lekh-gamma.vercel.app
- Romanized-to-Devanagari input method that transliterates as you type, backed by a phonetic engine and a 763-word dictionary; adds in-browser OCR (Tesseract.js) and English-to-Nepali translation with an optional on-device NLLB-200 model. Offline PWA.
- Online Stadium Booking** github.com/Amunet98/stadium-booking
- Third-year project, restored five years on: closed an unauthenticated admin panel, migrated MD5 to bcrypt, fixed a race condition that oversold seats — 24 workers sold 24 tickets against 4 seats before the fix, exactly 4 after — and rebuilt the lost schema with real constraints. A later self-audit closed an open redirect and rate-limited login.
- Hand Gesture Recognition** gesture-recognition-ten.vercel.app
- In-browser gesture classifier — MediaPipe hand tracking (21 keypoints) on a GPU-delegated WASM runtime recognizes 7 gestures including ASL, with two playable game modes. No backend; video never leaves the browser.
- Air Canvas** air-canvas-pied.vercel.app
- Draw in the air with a fingertip — hand-landmark-driven pen with smoothed strokes, gesture-based pen up/down, brush/eraser toolbar, and mirror-corrected PNG export.
- Portfolio AI Assistant** bimeshpoudel.com.np — the >_ button
- LLM chat assistant embedded in this portfolio: a serverless function streams Groq-hosted answers (OpenAI's gpt-oss-20b) grounded in a curated knowledge base, with per-IP rate limiting and prompt-injection hardening.

CERTIFICATIONS & TRAINING

- Salesforce Trailhead — Double Star Ranger** — 289 badges, 100,525+ points, 33 trails completed 2023
- Net Engineer** — Aptech Computer Education, certificate of participation 2014

EDUCATION

- B.E., Computer Science** 2024