PRAKASH CHAUDHARY

Computer engineering student. Ships complete systems, asks more questions than is strictly polite.

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01 IN SHORT

Builds the whole thing — the AI model, the app around it, and the pitch that sells it. Entered two hackathons, won both: one paid $600, the other is sending the team to Helsinki to represent Nepal. Away from the keyboard, raised sponsorship from companies for a robotics club, ran business development at AIESEC, and was elected class representative. Reads a lot of history. Ships anyway.

IF YOU WANT SOMEONE WHO SHIPS

- Ships end to end: an AI autopilot on a Raspberry Pi, a chatbot that runs in the browser, a five-package system with 160 tests.
- Tests the big claim first, says so when it doesn't hold, and ends every project with a demo or a writeup.

IF YOU WANT SOMEONE WHO RUNS THINGS

- Raised sponsorship from companies for one club; ran the unglamorous side of events — budgets, vendors, volunteers.
- Works easily across cultures — hosted exchange students from India and China. Debates competitively.

02 LEADERSHIP & EXPERIENCE

Associate Finance Head · Aavishkar, KU Robotics Club — 2026

- Raised sponsorship from companies by finding them, writing proposals and pitching in person.
- Owned event budgets — costs, vendors, spend tracking, and reports back to sponsors.

Member · Debate Network Nepal — OCT 2025 – PRESENT

- Competes in parliamentary debate — a useful habit for arguing the other side first.

Associate · AIESEC in Nepal — JUL 2024 – JUL 2025

- **Outgoing Exchange** (6 months): guided students from first call to departure on international volunteering and internship placements.
- **Business Development** (6 months): found and pitched partner organisations; left clean records so partnerships outlived the term.
- **Global Village organising committee:** helped plan and run AIESEC's biggest multicultural festival.
- **EP Buddy:** first point of contact for two exchange students from India and China.

Class Representative · Kathmandu University, 1st semester — 2024

- Elected by classmates to speak for the batch to faculty.

03 PROJECTS

Wins first, then work in progress. For each: the problem, what got built, and what happened. Every project has a demo, screenshots and source at **prakashchaudhary.tech ↗**

№01

THE KAIROS ENGINE

1ST PLACE · BUILD WITH GEMMA

A drone autopilot that can think for itself when things go wrong in the mountains.

PROBLEM → If wind or battery fails mid-flight, a delivery drone's only plan is "fly home" — which in the Himalayas often means into a ridge.

BUILT → A thinking layer above the flight controller: Gemma 4 reads the sensors, weighs the risk, and picks keep going, divert, or land. A crash-risk model, tested over 5,000 simulated Himalayan flights, reaches 97.4% accuracy.

RESULT → Runs fully on the drone (a Raspberry Pi 5), re-plans in under two seconds with no ground link, and logs every decision so it can be audited. Won the track and $600.

GEMMA 4 · XGBOOST · PYTHON · C++ · LLAMA.CPP · RASPBERRY PI 5

№02

FLUVIUS PREDICT

OVERALL WINNER · JUNCTIONX KATHMANDU

A live 3D copy of a river that tells a hydropower plant how much power it can make.

PROBLEM → Plants guess tomorrow's output from manual river readings and decades-old data — and pay grid fines when they guess wrong.

BUILT → One AI forecast that combines a robotic river scanner, rain radar and snowpack data, shown as a live 3D twin of the Kali-Gandaki plant. Built by a team in 48 hours.

RESULT → One clear number for tomorrow, next week and next month (24-hour, 7-day and 30-day forecasts), with no manual river dives. Won the track and the whole event, which sends the team to Junction in Helsinki to represent Nepal.

AI FORECASTING · 3D DIGITAL TWIN · RODALO RIVER SCANNER · RAIN RADAR · SNOWPACK DATA

№03

THE VEHICLE PROJECT

ONGOING · FOR GOVERNMENT USE

Road cameras that read Nepali number plates and note when cars come and go.

PROBLEM → Nepal uses two plate systems at once, power and internet cut out, and nobody wants cameras watching faces.

BUILT → A reader for both plate types, trained on 50,000 generated plates; camera boxes that work offline and sync later; faces blurred before saving; and records that can't be quietly edited.

RESULT → Five Python packages, 160 passing tests and a Nepali-first console, with nothing sent to foreign clouds — plus an honest list of what still needs real road footage.

PYTHON · PYTORCH · FASTAPI · POSTGRESQL · REACT · TYPESCRIPT · DOCKER

№04

PIKUBOT

ONGOING

A chatbot version of me that visitors can actually talk to — running entirely inside their browser.

PROBLEM → Portfolio sites are read-only. You learn about someone; you never get to ask them anything.

BUILT → An open-source language model (WebLLM on WebGPU) loaded into the visitor's own browser tab, taught my background and opinions.

RESULT → No servers, no API keys, no data leaving the visitor's machine — and a portfolio that answers back.

WEBLLM · WEBGPU · MLC · REACT · TYPESCRIPT

№05

RSNA KNEE MRI DETECTION

KAGGLE · ~4,500 TEAMS · ONGOING

An AI that finds 12 kinds of knee problems on MRI scans, learning mostly from doctors' written reports instead of hand-labelled images.

PROBLEM → Only 58 of 4,407 MRI studies had labels from experts. Most of what the doctors found was written in reports, in many languages.

BUILT → I turned the reports into training labels using public data and an AI model (Qwen3-8B), and removed one data source that had accidentally leaked the answers. I built a pipeline that shrank 570 GB of scans into an 18 GB training set without a single failure, and a model that studies five MRI views of the same knee together. Solo.

MODELS → **Trained:** an image network (EfficientNet and ConvNeXt versions) that looks at five MRI views together. **Used:** Qwen3-8B, a language model, to read the reports and make labels.

RESULT → The labels agreed more with radiologists (0.899 to 0.924 AUC). My model improved from 0.904 to 0.918 on the public leaderboard, and blending it with the best public model reached 0.942. Every change was tested fairly before I kept it, all on a laptop with a 6 GB GPU.

PYTORCH · TIMM · PYDICOM · VLLM · QWEN3-8B · KAGGLE API · GITHUB.COM/ITSPIKU/RSNA-KNEE-MRI-2026

№06

FRAGMENTS OF TRUTH

KAGGLE · ENVEDA CASMI 2026 · ONGOING

An AI that identifies a small molecule from its mass-spectrometry reading, searching over 100 million candidates.

PROBLEM → Different molecules can look almost the same in a reading, and the right one has to be found among about 106 million possible compounds.

BUILT → A system that first narrows the candidates by weight, then ranks what is left. One model predicts a molecule's “fingerprint” from the reading, and another, FoT-Align, learned to tell look-alike molecules apart from 1.66 million tricky examples.

MODELS → **Trained:** a transformer that predicts a molecule's fingerprint from the reading; FoT-Align, a graph neural network that matches readings to molecules; and a LightGBM model that ranks the final candidates.

RESULT → On realistic tests it places the correct molecule near the top (score 0.34, and 0.88 when a reference reading exists). I also found and fixed hidden flaws in my own testing that made results look better than they were. Training runs automatically on Kaggle's GPUs.

PYTHON · PYTORCH · RDKIT · LIGHTGBM · NUMBA · KAGGLE API

№07 – 12

ALSO BUILT

MANAVAAI

AI writing sounds like a toaster reading a manual. ManavaAI finds the robotic-sounding bits and rewrites them so they sound like a person, meaning intact. LLaMA-2 and Mistral, fine-tuned with LoRA.

LLAMA-2 · MISTRAL · LORA

A SQUARE ACADEMY

A two-sided tutoring marketplace for Nepal. Tutor contacts stay masked until a request is accepted; dashboards for students, tutors and admins, real-time chat, and a 3D hero.

REACT 19 · SUPABASE

SWEETCYCLE

A PWA for exactly two users: a shared cycle tracker and a daily love-note that unlocks each morning, with Row-Level Security keeping tomorrow's note a secret.

TANSTACK START · WEB PUSH

VERITASNP

Nepal had no fake-news dataset, so I built one by scraping OnlineKhabar and Ekantipur, then made five models fight over the headlines. The transformers won.

MBERT · MURIL

KUPALS

KU students wanted a place to find their people — coding, music, hiking. Public groups, invite-only private ones, real-time chat, and privacy enforced at the database level with Firestore rules.

NEXT.JS · FIREBASE

PIKU'S CAT

A boy, his cat and a moonlit pagoda: a whole anime adventure rendered in the browser tab, with music generated live by the Web Audio API and a “never stuck” guide.

THREE.JS · WEB AUDIO API

04 EDUCATION

B.E. Computer Engineering — 2024 – NOW
Kathmandu University

+2 Science — 2021 – 2023
St. Xavier's College, Maitighar

SEE, Grade 10 — 2021
United School, Lalitpur

05 AWARDS

2026 **1st place, Gemma for Route Intelligence** — Build With Gemma. $600 prize.

2025 **Track & overall winner** — JunctionX Kathmandu. Qualified for Junction, Helsinki.

2024 **Elected Class Representative** — Kathmandu University.

06 SKILLS

ENGINEERING

LANGUAGES
Python, TypeScript, JavaScript, C++, SQL

AI
PyTorch, XGBoost, fine-tuning (LoRA), Gemma, LLaMA, running models on small devices and in browsers

WEB & DATA
React, Next.js, Tailwind, Three.js, FastAPI, PostgreSQL, Supabase, Firebase, Docker, Git

MANAGEMENT

MONEY
Finding sponsors, writing proposals, pitching, budgeting, reporting back

EVENTS & PEOPLE
Planning and running events, coordinating volunteers and vendors, hosting international guests

COMMUNICATION
Pitching to judges and executives, competitive debate, clear writing for non-experts

07 HOW I WORK

OPERATING NOTES

READ BEFORE USE

INPUT	A question starting with "wait, can this even be done?"	OUTPUT	A working demo — or an honest writeup of why not. Never silence.
DEFAULT MODE	Read, build the ugly version, break it on purpose, fix it, ship it.	IN A DISAGREEMENT	Understands your side before answering it — a debate habit that also works in code review.
ON A TEAM	Takes the task nobody picked; writes things down for the next person.	KNOWN QUIRK	Will bring a history analogy to a technical meeting. Usually relevant.
WARRANTY	Says "I don't know yet" out loud rather than guessing quietly.	RUNS ON	Curiosity, tea, and a good deadline.

HISTORY TAUGHT PATIENCE. TECH TAUGHT SPEED.

Old empires are a reminder that things take longer than planned. Shipping software is a reminder to start anyway. Most good decisions sit somewhere in between.

LANGUAGES
English · Nepali · Hindi

INTERESTS
History · Debate · Robotics · Game development · Hackathons