

Kiran Poudel

Software Engineer · Aspiring HCI Researcher

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Summary

Computer Engineer (ranked 1st in my class) with 7+ years building AI-integrated healthcare software. I want to move from integrating AI models into products to studying how people actually trust and understand what those systems tell them. I have been exploring this through a civic education app I built, where I surveyed real users and am now studying how they respond to AI-generated explanations.

Education

I.O.E. Eastern Region Campus, TU, Bachelor in Computer Engineering – Dharan, Nepal Jan 2014 – Jan 2018

- 76.78%, ranked 1st
- Relevant Coursework: Data Structures & Algorithms, Software Project Management, Artificial Intelligence, Operating Systems
- Final Project: Facial Expression Detection Using Deep Learning (Python, TensorFlow, OpenCV)

Nepal Mega College, Science in +2 – Kathmandu, Nepal Jan 2011 – Jan 2013

- 79.00%
- Stream: Science (Physics, Chemistry, Mathematics, Biology)

Research and Applied Projects

Constitution of Nepal (Civic Education App) – Mobile App — Founder/Developer 2026 – present

- Built and maintain a mobile app teaching Nepal's constitution through daily challenge questions; surveyed ~100 active users on adoption barriers and use cases (citizenship exam prep).
- Developing an "Explain with AI" feature and a working paper evaluating accuracy and user trust in AI-generated legal explanations.

Aama Cure – Maternal Health AI Platform (Technical Project Lead) 2026 – present

- Leading technical architecture and product direction for a maternal and postpartum health platform targeting an underserved population in a low-resource healthcare system.
- Currently scoping AI integration for the platform (in progress, not yet built).

Dionysus – AI-Driven Stress Monitoring System 2022 – present

- Built the iOS data pipeline synchronizing physiological signals from Apple Watch and Fitbit for longitudinal behavioural sensing; data was processed by ML models developed by the broader engineering team.
- Designed the SwiftUI visualization layer surfacing AI-generated Power/Stress scores to end users — direct hands-on work at the interface between model output and user comprehension.
- Integrated conversational AI (Gemini, ChatGPT) into the health platform's chatbot features.

Facial Expression Detection Using Deep Learning

- Developed a facial expression detection system with deep learning, achieving 68% accuracy in emotion detection.
- Integrated the model into an Android application for real-time analysis using TensorFlow, Java, and OpenCV.

Stock Market Analysis and Prediction Using Deep Learning

- Conducted stock market analysis and implemented predictive models using Artificial Neural Networks.
- Integrated the model into a Flask web application with a user-friendly interface using Keras, Flask, MySQL, and AM Charts.

Teaching Experience

- Lecturer (Full-Time)**, Kathmandu Shiksha Campus – Kathmandu Feb 2021 – present
- Instructed and guided BCA students in Artificial Intelligence, C programming, Operating System, Data Structures and Algorithms, Software Project Management, Mobile Programming, and Operations Research
 - Maintained an average student pass rate of around 85% through effective teaching methodologies and continuous academic support
 - Designed and delivered practical coursework to bridge the gap between academic curriculum and industry requirements
 - Supervised student projects, ensuring proper documentation, coding standards, and project lifecycle understanding
 - Mentored students in developing real-world projects and strengthening problem-solving and system design skills
- Lecturer (Part-Time)**, Padmashree College – Kathmandu June 2024 – Dec 2024
- Delivered lectures and conducted practical sessions for BIT students in Artificial Intelligence
 - Supervised and evaluated student projects and their reports, providing constructive feedback
 - Contributed to curriculum development and organized AI-focused workshops to enhance applied learning
- Lecturer (Part-Time)**, Araniko College of Business and Technology – Kathmandu Mar 2026 – present
- Delivering lectures and conducting practical sessions for BCA students in Operations Research, emphasizing problem-solving and real-world applications
- Course Creator & Instructor - Flutter App Development**, Learnsic Online Platform 2023 – present
- Designed and delivered a practical Mobile Application Development curriculum, reaching over 500 students. Focused on applied software architecture, problem-solving, and bridging academic knowledge with real-world projects.

Skills

Programming & Algorithms: Python · Java · C · Data Structures & Algorithms · Operations Research

Artificial Intelligence & Machine Learning: TensorFlow · PyTorch · Keras · Deep Learning · Neural Networks · Predictive Modeling · Computer Vision

Data & Databases: SQL · MySQL · Pandas · NumPy · Data Analysis · Data Visualization

Software Development: Swift · SwiftUI · React Native · Mobile/Backend Integration · System Design

Tools & Collaboration: Git · Jupyter Notebook · VS Code · Research-oriented code development

Professional Experience

- Senior Software Engineer**, Fusemachines – Kathmandu, Nepal May 2022 – present
- Integrated AI models (ChatGPT, Gemini) into real-time health platform features.
 - Implemented robust data synchronization and offline support for low-connectivity environments.
 - Mentored developers and conducted internal training on modern software architecture and AI integration.
 - Engineered performance improvements in data-heavy modules, optimizing system stability.
- iOS Developer**, Shiran Technologies Pvt. – Kathmandu, Nepal Oct 2020 – May 2022
- Researched and implemented FHIR data structures for standardized healthcare records.
 - Designed scalable system architectures for mobile applications supporting AI and real-time data.
 - Developed high-quality UI and core modules with focus on usability and maintainability.
- iOS Developer**, Ebpearls – Kathmandu, Nepal Oct 2018 – Oct 2020
- Migrated legacy applications to modern frameworks to improve maintainability and performance.
 - Built real-time audio-video modules for healthcare communication applications.
 - Developed core system features supporting AI-driven or data-intensive workflows.