

# JITEN RAI

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## EDUCATION

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### Texas College of Management and IT

Bachelor of Information Technology (Hons)

Mitrapark, Kathmandu

2022 – 2026

### Xavier International College

+2 Levels Science (Physics)

Kalopul, Kathmandu

2015 – 2017

## WORK EXPERIENCE

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### Computer Vision Intern

Danson Solutions

May 2025 - Aug 2025

Gairidhara, Kathmandu

- Worked on multiple mini projects on Computer Vision, YOLO, and CNN
- Performed on prolific standards to lead a team on separate interactive game development project
- Explored the concepts of Gen AI and Fast API endpoint generation for delivering a backend module

### AI Intern

Frost Digital Ventures

Nov 2025 - Jan 2026

Lampati, Kalanki

- Accomplished multiple weekly projects on EDA, ML algorithms, CNN, LLM and RAG.
- Delivered in detailed submission of tasks with calibration ablation on NN models, finetuning with LoRA-PEFT, evaluation reports on MRR and nDCG, graph structure manipulation using Networkx and Neo4j.
- Logging practice implied works with MLflow and WandB.
- Complete copilot application development with VS code extension delivery.

## PROJECTS

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### Projector Camera Interactive Balloon Pop Game | [LINK](#) | Python, Pygame, OpenCV, Ultralytics YOLO, ONNX

- An interactive balloon-popping game that uses computer vision (YOLO object detection via ONNX), OpenCV, and Pygame to detect and respond to real-world interactions projected onto a screen, with threading for real-time camera capture and smooth gameplay
- The system supports camera calibration, perspective correction, and multi-monitor/projector setups, and features animated visuals, sound effects, and score tracking, with assets managed in a structured directory
- The technical stack includes Python, Pygame for graphics and event handling, OpenCV for camera and image processing, Ultralytics YOLO for object detection, and threading for efficient parallel camera frame acquisition

### QuickDraw Game - AI-Powered Drawing Recognition | [LINK](#) | Python, FastAPI, TensorFlow, Vanilla JS, Keras

- Full-stack AI-powered drawing game: users draw objects on a smooth, responsive Vanilla JS canvas with real-time feedback, recognized by a CNN model integrated via FastAPI and Keras/TensorFlow for multi-class classification and confidence calibration.
- Comprehensive API endpoints for drawing recognition, random object selection, and model info; model training and calibration handled in Jupyter notebooks, with detailed results, confidence scores, error handling, mobile support, and clear project structure for easy deployment.

### Developer Copilot: AI-Powered RAG and PR Summarization | [LINK](#) | Python, ChromaDB, Groq, RAG, VS Code Extension

- An intelligent developer productivity suite featuring code search and pull request summarization, leveraging advanced natural language processing, vector search, and Retrieval-Augmented Generation (RAG) for comprehensive, context-aware codebase navigation and review.
- Implements PR summarization by executing Git commands to extract atomic code changes, enabling precise, commit-level analysis and generating concise, context-rich summaries for each pull request.
- The technical stack includes Python for backend logic, ChromaDB for vector storage, Groq API (Llama-3.3-70B-Versatile) for language understanding, RAG for improved search, and TypeScript for VS Code extension development, with structured assets and documentation for easy deployment and extension.

### MCQ Paper Grader | [LINK](#) | Python, OpenCV, Streamlit, Pandas

- Developed a web-based application to automate grading of multiple-choice answer sheets using image processing
- Utilized OpenCV for bubble detection, Streamlit for an interactive user interface, and Pandas for result analysis and visualization

## CERTIFICATIONS

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AI Internship Experience Letter | [LINK](#) | Frost Digital Ventures — Jan 2026

Computer Vision Internship Letter | [LINK](#) | Danson Solutions — Aug 2025

Deep Learning Specialization | [LINK](#) | Coursera — Feb 2025

Sequence Models | [LINK](#) | DeepLearning.AI — March 19, 2025

Convolutional Neural Network | [LINK](#) | DeepLearning.AI — March 10, 2025

Structuring Machine Learning Projects | [LINK](#) | DeepLearning.AI — March 4, 2025

Improving Deep Neural Networks: Hyperparameter Tuning, Regularization | [LINK](#) | DeepLearning.AI — February 27, 2025

Neural Networks and Deep Learning | [LINK](#) | DeepLearning.AI — February 13, 2025

## SKILLS SUMMARY

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**Programming:** Python, Data Structures, Algorithms

**Libraries/Frameworks:** NumPy, Pandas, Scikit-learn, TensorFlow

**Domains:** Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Data Science

**Tools:** Git, Jupyter Notebook, Virtual Environments, VS Code

**Soft Skills:** Problem-Solving, Data Analysis, Project Management, Team Collaboration

## ADDITIONAL INFORMATION

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**Languages:** English (Fluent), Nepali (Native)

**Awards/Activities:**

- Winner, Texas Dev Rumble 2025 - One Day Code Competition, Collaborated with a team developed an end-to-end web application on virtual study rooms with session based context level understanding chatbot feature
- Winner, Texas Hackathon 2025 - Volume I, Collaborated with my team to develop a virtual assistant for visually impaired students
- Robotics Expo - Sep 2025, Presented a group project on a Remote-Controlled IR Ray Sensor Light built using Arduino and IoT concepts

## REFERENCES

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**References available upon request.**