

# Srijan Basnet

Artificial Intelligence and Automation Engineer • Applied Machine Learning • Full-Stack AI Systems

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## EDUCATION

**Bachelor of Science in Computer Science and Information Technology** Pokhara, Gandaki, Nepal  
*Prithivi Narayan Campus* April 2022 – April 2026

## EXPERIENCE

**AI and Automation Engineer** Chicago, Illinois, USA  
*Ashray Tech* December 2024 – Present

- Engineered a voice-interactive RAG system incorporating advanced speech recognition (STT) and speech synthesis (TTS) to provide accurate, context-aware responses to user inquiries.
- Developed an automated workflow for ingesting and posting patient notes into the electronic medical record (EMR), reducing manual data entry and improving accuracy.
- Researched and implemented content-driven quantitative and qualitative metrics to assess the quality and completeness of clinical notes through detailed analysis.

## PROJECTS

**Second Opinion** | *Python, PyTorch, Fast API, React, PostgreSQL*

- Developed an AI-powered medical image analysis platform leveraging **Vision Transformers (ViT)** and **transfer learning**, achieving **96.89% test accuracy** on MRI-based brain tumor classification with automated image-type verification for reliable preprocessing.
- Implemented secure user management with OTP-based email verification, encrypted authentication, and a full dashboard for viewing predictions, histories, and probability breakdowns.
- Built PDF-report generation and a seamless end-to-end workflow for image upload, inference, results visualization, and shareable medical summaries for clinical consultation.

**E-Nirikshan** | *Python, React Native, Node.js, ChromaDB*

- Developed a multi-service transparency platform for government procurement system.
- Built the citizen-facing mobile app enabling project browsing, real-time tracking, and submission of geo-tagged photographic reports with multilingual support.
- Implemented an AI assistant using a Retrieval-Augmented Generation architecture with ChromaDB and OpenAI, including **multilingual voice interaction via Speech-to-Text (STT)**.
- Created secure, scalable API services and end-to-end infrastructure for data ingestion, analytics dashboards, and seamless communication between backend, mobile, and RAG systems.

**WordLens AI** | *Flutter/Dart*

- Developed an on-device AI image-search system using **Google ML Kit OCR**, enabling fast, fully offline text extraction across user galleries and powering an app with **5,000+ Google Play downloads**.
- Engineered an optimized background pipeline to scan, recognize, and index text from thousands of images, using **sqlite** caching to deliver high-performance, ML-driven retrieval at scale.
- Implemented advanced multi-keyword and date-based search on top of OCR-derived features while ensuring complete privacy by performing all AI inference locally on the device.

## TECHNICAL SKILLS

**Languages:** Python, R, Dart, Java, C/C++, SQL, JavaScript

**ML/AI:** PyTorch, Vision Transformers (ViT), RAG, OCR, Transfer Learning

**Backend:** FastAPI, Flask, Django

**Mobile:** Flutter, React Native

**Tools:** Git, Docker, Kubernetes, GCP

## CERTIFICATIONS

**Google Data Analytics**

**CITI Data and Specimen Research**

**HIPAA Certification**