Srijan Basnet

AI/ML Engineer • Applied Machine Learning • Full-Stack AI Systems

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EDUCATION

Prithivi Narayan Campus   Pokhara, Gandaki, Nepal
Bachelor of Science in Computer Science and Information Technology   *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 **sqflite** 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, 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

CITI Data and Specimen Research
CITI Conflict of Interest
HIPAA Certification