

PRASHANNA RAJ PANDIT

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Summary

Graduate student in Computer Science specializing in Machine Learning, Deep Learning, and AI-driven software development. Experienced in designing, training, and deploying advanced ML models using TensorFlow, Keras, and PyTorch for applications in computer vision, NLP, and predictive analytics. Skilled in developing scalable data pipelines, implementing optimization algorithms, and integrating AI models with backend systems using Flask and REST APIs.

Education

M.S. in Computer Science

Southern Illinois University Edwardsville

Expected May 2026

Edwardsville, IL, USA — GPA: 3.86 / 4

B.E. in Electronics, Communication and Information Engineering

Tribhuvan University, Institute of Engineering (Pulchowk Campus)

Nov 2018 – Mar 2023

Lalitpur, Nepal — GPA: 3.75 / 4

Skills

Programming & Data Handling: Python, R, SQL, C/C++, Pandas, NumPy, SciPy, scikit-learn, OpenCV

Machine Learning & MLOps: TensorFlow, PyTorch, Keras, Apache Spark, Airflow, MLflow, Databricks, Docker, CI/CD

Tools & Methodologies: Git, GitHub, Tableau, Linux, MLflow, Jupyter Notebook, ML-Pipelines, Cloud Services, AWS, Software Development Life Cycle, MLOps

Experience

Research Assistant

Southern Illinois University Edwardsville

Jan 2025 – Present

Edwardsville, IL, USA

- Extracted 2D keypoints from 106 video datasets using OpenPose and processed JSON data with Pandas and NumPy to compute gait kinematic features (stride length, cadence, joint angles), demonstrating strong Python proficiency and data handling of large datasets.
- Preprocessed gait time-series data via cubic spline interpolation, Savitzky-Golay smoothing, gait phase detection, and turn removal; engineered a multimodal dataset for deep neural networks, applying statistical principles to enhance data quality.
- Developed a logistic regression baseline achieving 72% accuracy and a deep learning model (80K parameters) achieving 88% accuracy on gait classification, leveraging machine learning frameworks such as Scikit-Learn to drive data-informed experimental decisions.

Software Engineer

Vrit Technologies

Jan 2023 – Jul 2024

Kathmandu, Nepal

- Designed and deployed the FootBalance-Nepal website with a Flask backend and Sheety API integration, enhancing SEO score from 71 to 88 and performance score from 81 to 95.
- Implemented continuous integration pipelines with GitHub Actions and Docker for deployment and scalability.
- Utilized Git for version control, ensuring code consistency and facilitating team collaboration throughout the development life cycle.

Projects

Predictive Analytics on Iranian Telecom Data | *R, ML, Tableau*

Academic Project

- Forecasted telecom network usage using Poisson, Negative Binomial, Ridge, and Lasso regression models, addressing overdispersion and multicollinearity. Reduced RMSE by 34% through optimized modeling and feature engineering.
- Classified customer complaints with Logistic Regression + SMOTE, improving AUC from 0.8206 to 0.924 and accuracy to 87.5%.
- Visualized model results and insights in Tableau; published full analysis on GitHub.

MedNLPify | *Deep Learning, NLP, Flask, Chrome Extension*

Academic Project

- Developed deep learning models with token, character, hybrid, and positional embeddings to classify sentences in 200k PubMed RCT abstracts.
- Improved accuracy from 72.5% (baseline) to 85.6% using a Tribrid model.
- Built an end-to-end NLP pipeline including preprocessing, model training, and deployment as a web app and Chrome extension.

Publications & Awards

- **Best Paper Award – ICT-CEEL 2023:** Presented “Automation of Driving License Test using Computer Vision and Image Processing” at the International Conference on Technologies for Computer, Electrical, Electronics Communication.
- Built CarSight, an AI-powered prototype to automate driving license tests in Nepal, evaluating maneuvers such as the 8-test, U-turns, and traffic sign compliance, achieving 95% detection mAP with YOLOv5.