PRASHANNA RAJ PANDIT

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Summary

Graduate student in Computer Science with expertise in ML, statistical modeling, and data-driven software development. Proficient in Python, R, SQL, and modern ML/DL frameworks, with hands-on experience in data preprocessing, EDA, and building end-to-end workflows for mining, visualization, and deployment.

Education

M.S. in Computer Science — **Expected May 2026**
Southern Illinois University Edwardsville — *Edwardsville, IL, USA — GPA: 3.86 / 4*

B.E. in Electronics, Communication and Information Engineering — **Nov 2018 – Mar 2023**
Tribhuvan University, Institute of Engineering (Pulchowk Campus) — *Lalitpur, Nepal — GPA: 3.75 / 4*

Skills

Languages & Frameworks: Python, R, C, C++, SQL, Flask, Tensorflow, Keras, REST API, YOLO, OpenPose
Libraries: Pandas, NumPy, Scikit-Learn, SciPy, Matplotlib, Seaborn, OpenCV, Selenium, JSON
Tools and Methodologies: Git, GitHub, Tableau, Linux, PyCharm/Visual Studio, Jupyter Notebook, Cloud Services, Database Knowledge, Software Development Life Cycle

Experience

Research Assistant — **Jan 2025 – Present**
Southern Illinois University Edwardsville — *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).
- 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.
- Developed a logistic regression baseline achieving 72% accuracy and a deep learning model (80K parameters) achieving 88% accuracy on gait classification.

Software Engineer Intern — **Jan 2023 – Jul 2023**
Vrit Technologies — *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.
- Collaborated on full-stack development and optimized backend workflows for scalability and maintainability.
- 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.