PRASHANNA RAJ PANDIT

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Summary

Graduate student in Computer Science with a focus on ML, Deep Learning, and Statistics, bringing 2 years of experience in designing, training, and deploying production-grade ML models using TensorFlow, Keras, and Scikit-learn. Proficient in building end-to-end MLOps pipelines with Docker and GitHub Actions, automating model training, testing, and deployment. Passionate about applying MLOps and cloud technologies to turn complex data into actionable, real-world AI solutions.

Skills

Languages: Python, R, C++, SQL

Frameworks: Flask, TensorFlow, Keras, REST API, YOLO, OpenPose

Libraries: Pandas, NumPy, Scikit-learn, SciPy, Matplotlib, OpenCV, JSON

Tools & Platforms: Git, GitHub, Docker, GitHub Actions, AWS (S3, EC2), Airflow, MLflow, Tableau, Bash, Linux

Methodologies & Concepts: Object-Oriented Programming, Exploratory Data Analysis, Data Cleaning, Time-Series Forecasting , Machine Learning, Deep Learning, Statistical Modeling, Feature Engineering, Data Visualization, Model Optimization, MLOps, SDLC, CI/CD, ML-Pipelines, Model Deployment

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, NumPy, and OpenCV via Bash scripts 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, built automated data pipelines, and visualized results using Matplotlib and Seaborn to enhance experimental efficiency.
- Developed a logistic regression baseline achieving 72% accuracy and a deep learning model (80K parameters) achieving 88% accuracy on gait classification, applying statistical model evaluation techniques and organizing experiment pipelines for reproducibility.

Software Engineer **Jan 2023 – Jul 2024**
Vrit Technologies *Kathmandu, Nepal*

- Designed and deployed the FootBalance-Nepal website with a Flask backend, integrated Sheety REST API, and hosted static assets on AWS S3, boosting SEO score from 71 to 88 and performance score from 81 to 95.
- Implemented continuous integration pipelines with GitHub Actions and Docker in a Linux environment, writing Bash scripts to automate testing and deployment for improved scalability.
- Utilized Git for version control on Linux systems, ensuring code consistency and facilitating team collaboration throughout the development life cycle while demonstrating strong Linux interaction.

Projects

Predictive Analytics on Iranian Telecom Data | *R, Machine Learning, Tableau, GitHub Actions* **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 with SMOTE, improving AUC from 0.8206 to 0.924 and accuracy to 87.5%.
- Visualized customer churn, usage frequency, tariff plans, and key performance indicators (KPIs) in Tableau.

MedNLPify | *Deep Learning, NLP, Flask, Chrome Extension, Docker* **Academic Project**

- Built a Tribrid NLP model (token + character + positional embeddings) to classify 200k PubMed RCT sentences, boosting accuracy from 72.5% to **85.6%**.
- Developed a full end-to-end pipeline - preprocessing, model training, and inference API - using Flask and Docker, enabling scalable and portable deployment.
- Implemented CI/CD with GitHub Actions (reducing manual build time by **45%**) and deployed a Chrome extension delivering real-time medical text classification.

Education

Master of Science in Computer Science **Expected May 2026**
Southern Illinois University Edwardsville *Edwardsville, IL, USA — GPA: 3.88 / 4*

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

Publications & Awards

Best Paper Award – ICT-CEEL 2023 (International Conference on Technologies for Computer, Electrical, Electronics & Communication): Awarded for the paper *"Automation of Driving License Test using Computer Vision and Image Processing"* and for developing **CarSight**, an AI-based system achieving 95% mAP for automated driving-test evaluation. ResearchGate