AWANTIKA SRIVASTAVA

AI / Computer Vision Engineer | Machine Learning Engineer

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PROFILE SUMMARY

AI / Computer Vision Engineer with **2+ years of hands-on experience** building and deploying **deep learning–based computer vision systems**. Strong expertise in **PyTorch, TensorFlow, pose estimation, action recognition, and video analytics**. Proven ability to design **end-to-end CV pipelines**, train models on large-scale datasets, and convert research prototypes into **production-ready solutions**.

CORE TECHNICAL SKILLS

- **Programming & Data Science:** Python, C++, SQL., Pandas, Numpy, Scikit-learn, Jupyter Notebook.
- **Statistics & Mathematics:** Statistical Modeling, Descriptive Statistics, Hypothesis Testing, Probability, Sampling, Scenario Analysis.
- **Machine Learning:** Supervised & Unsupervised Learning, Regression, Classification, Clustering, Random Forest, Decision Trees, SVM, KNN, K-Means, XGBoost, Model Evaluation Metrics, Reinforcement Learning, Supervised fine-tuning.
- **Deep Learning & AI:** Neural Networks, CNN, RNN, LSTM, Transformers (BERT), Model Optimization, Model Fine-tuning, Time-series Forecasting, ARIMA, SRIMA.
- **Deep Learning Frameworks:** TensorFlow, keras, Pytorch, TensorFlow Lite.
- **Computer Vision:** Image Classification & Preprocessing, Object detection (YOLO, SSD, MobileNet, ResNet), Video Analytics, OpenCV, OpenPose.
- **Video Understanding:** Action Recognition, Pose Estimation, Temporal Modeling.
- **Tools:** Git, Docker, Linux
- **Deployment:** REST APIs, Model Serving
- **Visualization:** Matplotlib, Seaborn, Power BI (basic)

EXPERIENCE

AI – Computer Vision Engineer | PPS International Pvt. Ltd. **January 2024-Present**

- Designed and deployed **production-grade machine learning models** using Python and deep learning frameworks, improving inference stability by **30%**.
- Built **end-to-end ML pipelines** covering data preprocessing, feature engineering, model training, evaluation, and deployment.
- Implemented **computer vision systems** for pose estimation, action recognition, and video analytics.
- Trained and fine-tuned deep learning models on **large-scale image and video datasets**.
- Optimized model performance through **hyperparameter tuning and architecture improvements**.
- Collaborated with cross-functional teams to translate business and product requirements into ML solutions.
- Ensured clean, modular, and maintainable code using Git-based workflows and best practices.
- Monitored model **performance** using **dashboards** and **logs**, supporting **debugging** and iterative improvement.
- **Collaborated** closely with senior data scientists, ML engineers, and platform teams to ship production **AI** features.

PROJECTS

Railway Driver Assistance System (RDAS) | Enterprise ML Project

- **Designed and deployed a** real-time computer vision–based ML system **for unsafe** driver behavior detection using **CNN-based SSD MobileNet** model.
- Trained and optimized models on large-scale video datasets, achieving **20–25 FPS** real-time processing with **<150 ms inference latency**.
- Implemented **end-to-end ML pipelines** for data ingestion, preprocessing, model training, evaluation, and production inference.
- Deployed optimized models using **TensorFlow Lite** on edge/production environments for continuous monitoring.
- Built a **Flask-based web dashboard** to visualize detections and automatically record **30-second event clips**, reducing manual review effort.

Human Pose Estimation & Action Recognition System | Applied ML Project

- Developed an **end-to-end computer vision pipeline** to analyze sports videos and extract **pose keypoints, joint angles, and motion trajectories.**
- Implemented **pose estimation models** using MediaPipe/OpenPose to track **30+ body landmarks per frame**.
- Built **action recognition models** on sequential pose data, achieving **~88% classification accuracy**.
- Optimized video processing pipeline to run inference **2× faster**, enabling near real-time analysis.
- Applied biomechanical analysis on pose keypoints to compute **joint angles, posture alignment, and movement symmetry**, enabling actionable performance feedback for athletes and coaches.

Amazon Stock Price Prediction | Applied ML Project

- Built **LSTM-based deep learning models** for multivariate time-series forecasting on sequential datasets.
- Improved prediction accuracy by **20%** compared to traditional regression models.
- Performed feature engineering, sliding-window sequence generation, and hyperparameter tuning.
- Used temporal modeling concepts applicable to **video sequence understanding and motion analysis**.

CERTIFICATION

- IBM Data Science & AI Certification
- AWS Generative AI with Large Language Models
- OpenCV Computer Vision Certification

EDUCATION

IMS Engineering College, Ghaziabad **September - 2020**

Bachelor of Technology (Electrical and electronics engineering)