Shantanu

Aspiring Machine Learning Engineer
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Professional Summary

Aspiring Machine Learning Engineer with hands-on experience in model development, deployment, and real-time computer vision systems. Skilled in Python, SQL, and deep learning frameworks such as TensorFlow and PyTorch. Strong background in EDA, model optimization, and delivering AI-powered solutions. Currently contributing to a research paper on yoga pose detection at Quantum University.

Technical Skills

- **Languages:** Python, SQL
- **Data Science & Machine Learning:** NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, OpenCV
- **Data Visualization:** Matplotlib, Seaborn, Power BI
- **Web Development & Deployment:** Flask, Streamlit, HTML, CSS
- **Developer Tools & Platforms:** Git, GitHub, VS Code, Jupyter Notebook, PyCharm

Professional Experience

Inonetecx Inc., Toronto, Canada — Machine Learning Engineer Intern ***Dec 2024 – Mar 2025 (Remote)***

- Built and optimized ML models using Scikit-learn and TensorFlow, achieving a 15% boost in prediction accuracy and efficiency.
- Conducted EDA using Pandas & Matplotlib, identifying trends and anomalies that led to 15% process optimization.
- Deployed ML models using REST APIs for real-time inference in production environments.
- Developed interactive analytics dashboards in Streamlit for real-time monitoring and decision support.
- Collaborated with cross-functional teams using Git and GitHub for version control and seamless workflow integration.

Codtech IT Solutions, Gurgaon, India — Data Analyst Intern ***Jul 2024 – Sep 2024 (Remote)***

- Worked on a project called "Sales Analytics and Trend Forecasting" to help understand sales data better.
- Used Python libraries like Pandas and Matplotlib to find patterns and trends in the data.
- Wrote SQL queries to collect important data from MySQL databases quickly.
- Made clear and simple reports and charts to explain the data to the team.
- Worked closely with team members online to share updates and solve problems together.

Education

B.Tech in Computer Science & Engineering (Data Science)

- Quantum University, Roorkee | 2022 – Present
- CGPA: 7.25 / 10

Intermediate (12th Grade) *Completed in 2021*

- Maharana Pratap Memorial Inter College, Saharanpur
- Percentage: 69.9%

High School (10th Grade) *Completed in 2019*

- Maharana Pratap Memorial Inter College, Saharanpur
- Percentage: 82.3%

Certifications

- Generative AI Study Gems – Covered large language models and prompt engineering under Google Developer Student Club.
- The Complete Python Bootcamp – Python 3 from basics to advanced, including OOP and Flask (Udemy).
- Machine Learning A-Z: AI, Python & Data Science – Real-world ML pipeline, Scikit-Learn, and TensorFlow (Udemy).
- Python and Flask Bootcamp – Created dynamic web apps and REST APIs using Flask (Udemy).
- Data Analytics Job Simulation – Virtual internship with Deloitte via Forage, including data analysis and dashboard creation.
- Learning Data Analytics – Basics of analytics using Power BI, Excel, and Python (LinkedIn Learning).

LANGUAGES

- English
- Hindi

Project Accomplishments

1. AI-Based Yoga Pose Recognition System (YOLOv10 + MediaPipe)

- Developed a real-time yoga pose classification system using YOLOv10 Nano and MediaPipe for landmark tracking.
- Focused on five standard yoga poses—Downdog, Goddess, Plank, Tree, and Warrior2—using the Yoga-82 dataset.
- Integrated OpenCV for webcam-based real-time input and feedback.
- Achieved 89.8% mAP; research paper currently under review at Quantum University.
- GitHub Link

2. Food Item Detection and Calorie Estimator (YOLOv8 + OpenAI GPT API)

- Developed a smart food detection system using YOLOv8 integrated with OpenAI GPT API to generate food-specific nutritional and dietary insights.
- Collected a dataset of 100 Indian food categories through web scraping, representing North, South, East, and West Indian cuisines. Each category included over 250 high-quality labeled images.
- Annotated and formatted the dataset using Roboflow and trained the model with YOLOv8.
- Used OpenCV and Flask to enable webcam-based real-time detection and calorie estimation.
- GitHub Link

3. Sign Language Gesture Recognition System (YOLOv8)

- Built a real-time sign language recognition system using YOLOv8 to detect 5 hand gestures: "Hello", "Yes", "No", "Please", and "Thank You".
- Collected and labeled a custom dataset using Roboflow focused on American Sign Language.
- Integrated OpenCV for webcam input; displayed live predictions with bounding boxes.
- Achieved 94.56% accuracy in real-time detection with strong precision and recall.
- GitHub Link