YASH DILKHUSH

PYTHON DEVELOPER | ML ENGINEER
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PROFESSIONAL SUMMARY

Python Developer and Machine Learning Engineer with hands-on experience in designing, training, and deploying deep learning and computer vision models. Strong background in data preprocessing, model optimization, and transfer learning, with practical exposure to frameworks such as TensorFlow, PyTorch, and OpenCV. Experienced in building end-to-end AI solutions, including image classification, object detection (YOLO), and real-world research-oriented projects. Actively involved in research paper development and passionate about applying AI/ML to solve real-world problems through scalable and efficient systems.

KEY SKILLS

Machine Learning | Deep Learning | Computer Vision | Data Analysis | Model Training & Evaluation | Transfer Learning | Research & Paper Writing | Problem Solving | Algorithmic Thinking | Project Development | API Integration | Deployment Basics

TECHNICAL SKILLS

Python | NumPy | Pandas | Matplotlib | Seaborn | Scikit-learn | TensorFlow | PyTorch | OpenCV | YOLO (Object Detection) | CNNs | FastAPI | Flask | SQL | MongoDB | Git & GitHub | Linux | Jupyter Notebook

PROJECTS

Crater and Boulder Detection System (Three.js, FastAPI, YOLOv8)

- Designed an interactive 3D web-based visualization using Three.js to display lunar crater and boulder detection results.
- Integrated a FastAPI backend with a trained YOLOv8 model for real-time image and video inference.
- Collaborated with a 3-member team, contributing to frontend development while coordinating with teammates responsible for dataset preparation and model training.

Maze-Solving Robot Car (Raspberry Pi, Computer Vision)

- Developed computer vision–based wall detection and autonomous navigation logic for maze solving.
- Implemented directional decision-making (left, right, forward, U-turn) using camera input.
- Assisted with hardware integration, including soldering, motor setup, and chassis design.
- Worked in a 4-member team, collaborating on camera integration and navigation modules.

License Plate Detection System (YOLOv8, OCR)

- Trained a YOLOv8 object detection model to accurately detect vehicle license plates from images.
- Implemented OCR-based text extraction from detected license plates for automated recognition.
- Achieved 3rd Prize at the IEEE Info Pixel Competition for innovation and model performance.

Data Analytics Projects (Python, Pandas, Matplotlib, Seaborn)

- **Heart Disease Analysis:** Identified key medical and lifestyle factors influencing heart disease risk through statistical analysis and data visualization.

- **Sugarcane Production Forecast:** Analyzed multi-year agricultural data to derive production trends and insights.
- **Country GDP Analysis:** Performed comparative economic analysis using GDP metrics across multiple countries.
- **Web Scraping Automation:** Automated data extraction from multiple web sources and transformed unstructured data into analyzable formats.

Skin Disease Classification Research (ResNet50, Ongoing)

- Contributing to the development of a deep learning–based skin disease classification system using ResNet50 and transfer learning.
- Actively involved in model experimentation, evaluation, and result analysis.
- Participating in research paper writing and review for publication; project ongoing for 6+ months.

Indian Food Recognition & Ingredient Analysis Research (Ongoing)

- Working on a research project focused on Indian food recognition using deep learning.
- Developing a framework to identify food items, extract ingredients, and estimate nutritional information from images.
- Contributing to dataset analysis, model comparison, and research paper preparation for conference/journal submission.

EDUCATION & CERTIFICATIONS

SARVAJANIK COLLEGE OF ENGINEERING AND TECHNOLOGY (SCET)
BACHELOR OF TECHNOLOGY (B.TECH) – COMPUTER SCIENCE & ENGINEERING
BATCH: **2023 – 2027**
CGPA: **8.6**

SARVAJANIK COLLEGE OF ENGINEERING AND TECHNOLOGY (SCET)
HONORS IN ARTIFICIAL INTELLIGENCE & MACHINE LEARNING
DURATION: **2024 – 2027**
CGPA: **10.0**

G.V.V.T. CHOKSI ENGLISH MEDIUM SCHOOL
HIGHER SECONDARY CERTIFICATE (HSC) – SCIENCE STREAM
BOARD: **GSEB**
YEAR OF COMPLETION: **2023**