

Kirubakaran M

Computer Vision Engineer

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Profile Summary

- Computer Vision Engineer with 1.4 years of experience in Python, Artificial intelligence, OpenCV, YOLOv5/YOLOv8, Cuda, TensorFlow, and PyTorch for real-time image and video processing.
 - Skilled in object detection, image segmentation, feature extraction, and video analytics using computer vision and deep learning algorithms.
 - Proficient in integrating AI models with Django, Flask, FastAPI, and building RESTful APIs for scalable web applications.
 - Experienced with frontend technologies like HTML5, CSS3, JavaScript, ReactJS, and Angular for interactive UI development.
 - Hands-on with AWS services (Lambda, EC2, S3, RDS), Git, Docker (basics), Celery, Redis, and Agile (Scrum) methodology.
 - Strong in database systems like MySQL, PostgreSQL, MongoDB, and DynamoDB; familiar with microservices and serverless architecture.
 - Passionate about delivering intelligent AI-driven solutions by combining computer vision, full-stack development, and cloud technologies.
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Core Skills

- **Programming:** Python, JavaScript, SQL, HTML5, CSS3
- **Computer Vision & Deep Learning:** OpenCV, YOLOv5/YOLOv8, TensorFlow, Keras, PyTorch
- **Machine Learning:** Supervised/Unsupervised Learning, Scikit-learn, Pandas, NumPy
- **Image & Video Processing:** Object Detection, Image Segmentation, Feature Extraction, Tracking
- **Web & API Development:** Django, Flask, FastAPI, RESTful APIs
- **Cloud Platforms:** AWS (Lambda, EC2, S3, RDS), Serverless Architecture
- **Databases:** MySQL, PostgreSQL, MongoDB, DynamoDB

Tools & Platforms

- VS Code – Used as the primary code editor for development
 - Git & GitHub – For version control and collaborative code management
 - Jupyter Notebook – For data analysis, model development, and visualization
 - Google Colab – For cloud-based model training and experimentation
 - Anaconda – For managing Python environments and packages
 - Postman – For testing and debugging RESTful APIs
 - MySQL – For relational database management and querying
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EDUCATION

Bachelor of Technology in Information Technology	2020 – 2024
KCG College of Technology, Chennai	80.3%

WORK EXPERIENCE

Software Trainee Unitel Software Ltd	Feb 2024-Present
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Project: Stepper Motor Dimension Checking System

Developed a computer vision system using Python and OpenCV to measure and validate stepper motor dimensions in automotive manufacturing.

Integrated with Flask and MySQL for image upload, dimension display, and QC report storage.

Client: LUCAS TVS

Key Responsibilities

- Developed image processing algorithms using OpenCV to detect and measure stepper motor dimensions.
- Built a Django web interface for image upload and real-time display of measurement results.
- Calibrated pixel-to-mm conversion using reference objects for accurate dimension scaling.
- Integrated MySQL to store dimension logs, timestamps, and quality control data.
- Coordinated with the mechanical team to define tolerance limits and validate outputs.
- Optimized preprocessing to handle noise, lighting variation, and improve measurement reliability.