Abhishek Singh

Python | Machine Learning | Computer Vision | AI
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GitHub: https://github.com/abhimattx
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Portfolio:

Professional Summary

Applied machine learning enthusiast with a strong foundation in Python and a focus on real-world, deployable AI applications. Experienced in building and shipping intelligent systems with Streamlit, OpenCV, and GPT APIs. Passionate about combining clean code, model logic, and functional UI to solve practical problems.

Projects & Research Experience

SmartVision AI

Real-time object detection app using YOLOv8 and OpenCV. Built an interactive Streamlit UI that supports webcam input, demo fallback, FPS counter, and confidence tuning.
Tech Stack: Python, YOLOv8, OpenCV, Streamlit
Live Demo: https://smartvisionai.streamlit.app
GitHub: https://github.com/abhimattx/smartvision-ai

GPT Summarizer

Interactive app that summarizes PDF files using OpenAI's GPT API. Handles document parsing, chunking, and clean summary generation via Streamlit frontend.
Tech Stack: Python, OpenAI API, PyMuPDF, Streamlit
Live Demo: https://summarizeropenai.streamlit.app/
GitHub: https://github.com/abhimattx/SummarizerOpenAI

Pick & Place Robot (Thesis Project)

Developed a camera-to-robot calibration system using OpenCV and ArUco markers to enable an ABB industrial robot to perform automated pick-and-place tasks. Used eye-on-base calibration and implemented pose-to-motion conversion logic.
Tech Stack: Python, OpenCV, ArUco, ABB RobotStudio
GitHub:

Skills

Languages: Python, C++
ML & CV Tools: scikit-learn, TensorFlow, OpenCV, GPT API, YOLOv8
Libraries: NumPy, Streamlit, Matplotlib, Seaborn, Pandas
Concepts: Model Evaluation, Computer Vision, Prompt Engineering, Deployment
Tools: Git/GitHub, VS Code, ABB RobotStudio, Google Colab

Education

Bachelor of Science in Intelligent Systems with Robotics
Tomas Bata University, Czech Republic

Certifications

Machine Learning A-Z: AI, Python & R — Udemy