Abhishek Singh

✉abhimattax@gmail.com | Portfolio: https://abhimattx.github.io/
https://github.com/abhimattx / https://www.linkedin.com/in/abhimattx/

Skills

Languages: Python, JavaScript, TypeScript, SQL, C/C++
ML & CV Tools: scikit-learn, TensorFlow, OpenCV, GPT API, YOLO, PyTorch, Hugging Face Transformers, XGBoost, OpenCV, LangChain, MLflow, Docker.

Work Experience

After-School Technical Projects, India   May 2021-July 2021

Software Developer
- Developed Python scripts to automate data processing tasks, enhancing workflow efficiency.
- Utilized SQL for database management and retrieval, ensuring data integrity and accessibility.
- Participated in code reviews, providing constructive feedback to peers for continuous improvement.

Education

Tomas Bata University – Zlín, Czech Republic   Sep 2022 - Jun 2025
B.Sc. in Intelligent Systems with Robotics   *Grade: A*
Relevant Coursework: Object Oriented Programming, Databases, Discrete Maths, Data Structures and Algorithms, Operating Systems, Computer Networks, Machine Learning, Data Mining, Advance Data Structures and Algorithms, Information Retrieval, Image Processing

Project Work

RoboCalib - https://github.com/abhimattx/RoboVisionCalib
- Engineered a vision-based robotic manipulation pipeline using OpenCV, Python, and ArUco markers for accurate camera-to-robot calibration
- Integrated with **ABB industrial robot** to execute autonomous pick-and-place tasks, achieving **<2 mm positional error** and **~95% success rate**
- Implemented **eye-on-base calibration** and **pose-to-motion transformation**, reducing execution latency by **30%**

ScopeAI – Intelligent Insight Extraction Platform - https://github.com/abhimattx/ScopeAI
- Developed and deployed a multi-source AI platform leveraging **OpenAI GPT-3.5** to automatically summarize and synthesize insights from **PDFs**, **YouTube videos**, and **news articles**
- Integrated VADER sentiment analysis, named entity recognition, and prompt-engineered queries to extract actionable intelligence from unstructured data
- Achieved a 30% reduction in manual research time through automated, real-time summarization and visualization

Voice Email Assistant – https://github.com/abhimattx/voice-email-assistant
- Developed a cross-platform voice-controlled desktop assistant that uses GPT-4 for natural language understanding and automates Gmail email composition via spoken commands.
- Integrated speech-to-text, text-to-speech, contextual memory, contact management, and theme customization for a seamless and accessible user experience.
- Implemented secure Gmail sending via OAuth-compatible App Passwords and structured the app with modular components for voice input, AI processing, and GUI interaction.

Czech Startup Ecosystem Analyzer — https://github.com/abhimattx/StartInsightCZ
- Engineered a scalable data pipeline to scrape and normalize Czech startup data using advanced anti-blocking techniques and SerpAPI fallback.
- Orchestrated GPT-4 reasoning via **LangChain** to parse and structure unstructured web content into actionable insights (industries, locations, contacts).
- Delivered an interactive Streamlit dashboard enabling real-time ecosystem analysis with minimal setup and intuitive UX.

Awards and Certificates

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