Abhishek Singh

✉abhimattx@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.
Communication: Excellent written and spoken English; adept at presenting technical and business insights to diverse audiences

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 and cross-functional projects, fostering continuous improvement and effective teamwork.

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, Softskills.

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
- Designed and launched a productivity tool that improved communication workflows, showcasing adaptability and user-focused development.
- 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).
- Orchestrated data normalization and actionable insight extraction, enabling quick adaptation to new market opportunities.

Awards and Certificates

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