



You **Think**, We **Make** It

Our Global Footprints



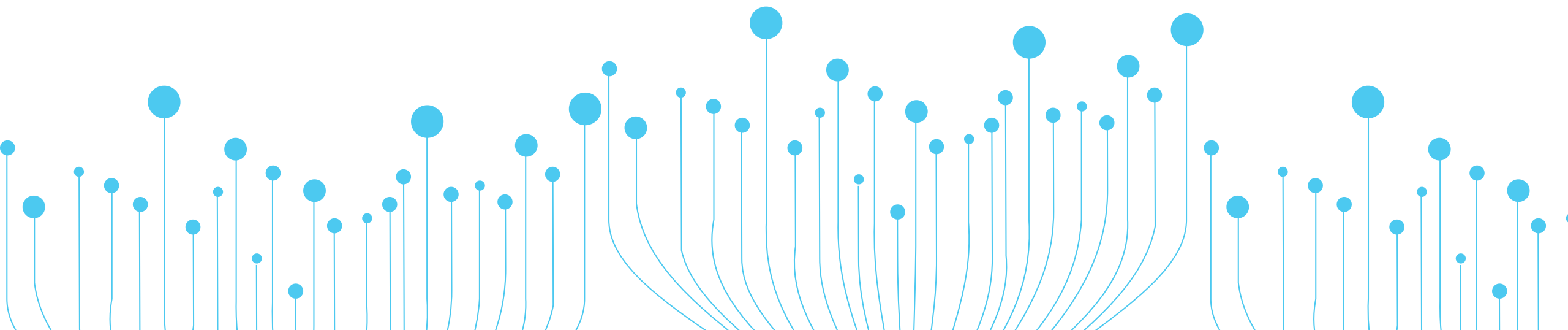
By Team Vionsys



Generative AI, Machine Learning, and Deep Learning are reshaping the way industries ensure quality, optimize operations, and make strategic decisions.

In these case studies, we showcase how advanced AI capabilities have been applied to real-world challenges in manufacturing and energy focusing on solutions that address specific operational challenges and delivering measurable improvements.

Built on cutting-edge frameworks like **TensorFlow, PyTorch, and YOLO**, each solution is engineered for scalability, precision, and impact—tailored to meet the unique demands of each industry.



Case Studies – Work we did.

PQRS (Product Quality Rating System)

Technical Details

- **Sensors:** – Camera, Mobile Camera
- **Application Technologies:** – Machine Learning, Deep learning, YOLO Alog, Tensorflow, Pytorch
- **Server:** – AWS

Customer Details:

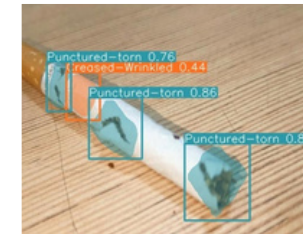
A global cigarette manufacturing company

Problem Statement:

- A very tedious and time consuming PQRS process where they check 150 defects on the cigarette and its packet
- No accuracy and observation is subject to examiner
- Lack of attention to standard process and method

Solution Delivered:

- Developed a machine learning framework with PQRS standard process and method to detect the defects on the cigarette and packet
- Automate the process to create inspection log and management dashboard



You Think, We Make It!

Case Studies – Work we did.

PQRS (Product Quality Rating System)

Technical Details

- **Sensors:** NA
- **Application Technologies:** Langchain framework, OpenAI library, OpenAI API's, Flask, Hugging Face, python, LLMs
- **Server:** Local

Customer Details:

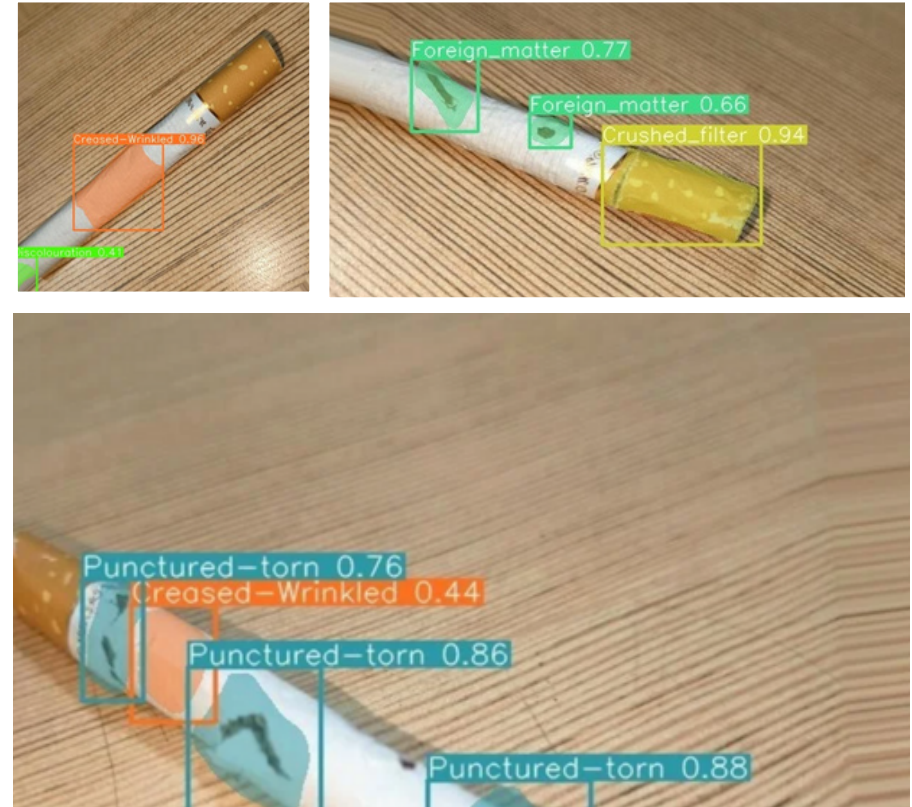
A global cigarette manufacturing company

Problem Statement:

- No dashboard or system for the management to check the large business data, compare the performance of various internal brand and competitors' brands
- Difficulty to generate graphs and data set on various management ask

Solution Delivered:

- Developed a dynamic ChatGPT based solution to cater to management different ask with respect to various business data representation, Management can ask any kind of report, comparison or data analysis



You Think, We Make It!

Case Studies – Work we did.

Petrol Pump Management System

Technical Details

- **Sensors:** Camera
- **Application Technologies:** Machine Learning, Deep learning, YOLO Alog, Tensorflow, Pytorch
- **Server:** AWS

Customer Details:

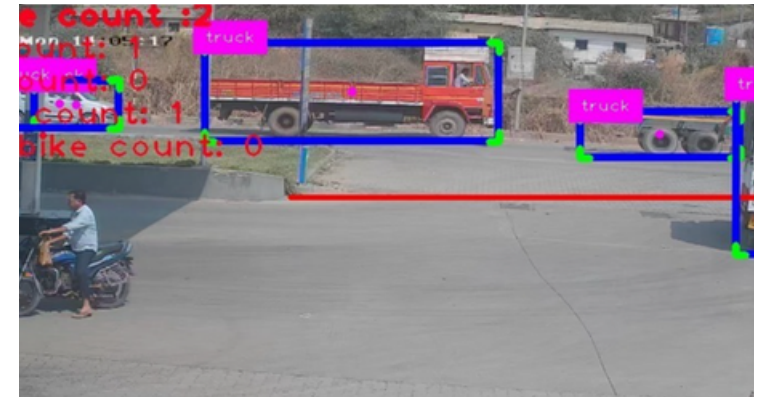
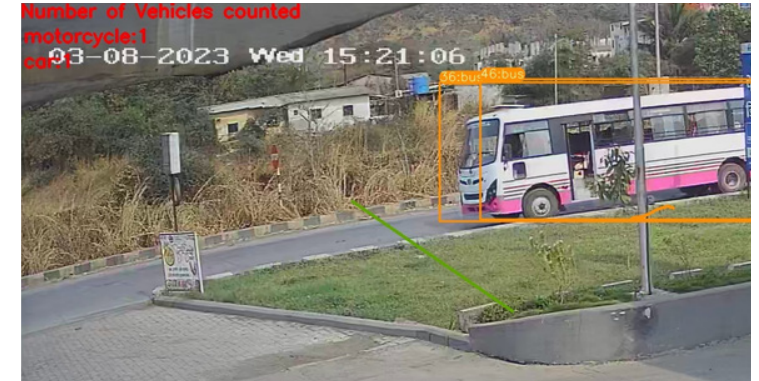
A global Energy Company “Nayara Engery”

Problem Statement:

- No visibility of customer segment
- No visibility of no. of vehicles coming in
- No system to automate the sales recording
- No visibility of the fuel storage and daily requirement

Solution Delivered:

- Connected the Machine Learning model with live feed from the camera installed at site
- Developed and customized the alog to analyse the live feed and give business output
- Developed mobile app to manage fuel inventory and sales



You Think, We Make It!

Case Studies – Work we did.

Agentic RAG-Based Document Chat System

Technical Details:

- **Sensors:** Textual Document Inputs
- **Application Technologies:** FAISS, Lang Chain, RAG, Re-ranking Algorithms
- **Server:** AWS

Customer Details:

Comprehensive document handling in the healthcare and e-commerce industry.

Problem Statement:

- Difficult, inefficient retrieval of key information from long documents.
- Unproductive search methods provide wrong or partially accurate answers.
- Excessive time automating document analysis.

Solution Delivered:

- Created an advanced chat interface with FAISS and LangChain, implementing a powerful RAG model.
- Specific relevance was improved with enhanced advanced re-ranking.
- Integrated Gradio to create User Interfaces, thus improving user satisfaction.
- Quality of responses provided to customers improved by 60%.



Case Studies – Work we did.

AI – Enhanced HR Interview Helper

Technical Synopsis:

- **Sensing Elements:** Resumes and interviews transcripts
- **Technology Implemented:** Prompt AI, NLP Workshops, Smarter AI
- **Hosting:** AWS

Client Information:

Businesses aiming to improve their recruitment processes.

Targeted Issues:

- Manual resume screening and interview assessments consume considerable time.
- Candidate evaluations are substantially delayed and misassessments are frequent.
- High operational expenditures and effective resource utilization gaps.

Provided Solution:

- Created the interview assistance application with prompt AI scoring.
- Intelligent reasoning agents were applied for advanced candidate evaluation.
- Substantial reductions in interview processing overheads were attained.
- More than 87 percent accuracy in initial candidate assessments was achieved.



You Think, We Make It!

Case Studies – Work we did.

LLM Optimization: 4-bit Quantized Meta LLaMA

Technical Details:

- **Sensors:** Textual Data
- **Application Technologies:** Large Language Models, Quantization Techniques
- **Server:** AWS, Hugging Face

Client Information:

A wide range of businesses that need sophisticated AI models deployed on devices with significantly limited resources.

Challenge it Covers:

- Struggles to deploy large language models to low-resource devices.
- Slow processing speed for many models restricts real-life use of technologies.
- Widespread use is restricted due to high computational resources required.

Solution Provided:

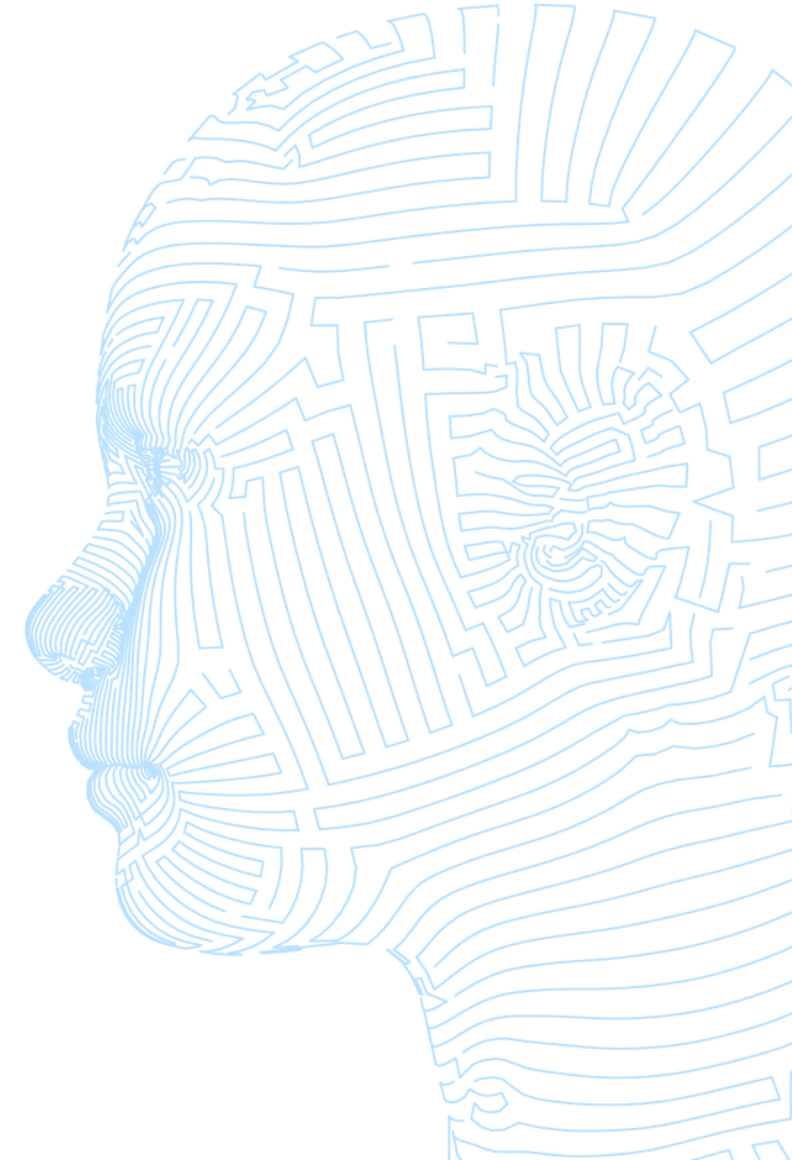
- Hugging Face platform slashed the deployment efficiency barrier by providing a simple funnel to host AI/ML models.
- Significant performance gain in constrained environments was accomplished.
- Advance AI models are now accessible to lower resource devices thus broadening the scope for efficient model deployment.



Partner with **Vionsys** to Build Your GenAI Solution

What Sets us Apart:

- Proven Expertise – Extensive experience in developing AI/ML/DL solutions across multiple industries, from manufacturing to energy.
- Custom-Built Solutions – Every project is tailored to address specific business goals and operational requirements.
- Cutting-Edge Technology – Leveraging leading frameworks such as TensorFlow, PyTorch, YOLO, LangChain, Hugging Face, Flask, and advanced OpenAI APIs to deliver precision, scalability, and high-performance AI solutions.
- End-to-End Capability – From concept and design to deployment and optimization, delivering fully functional, production-ready AI systems.
- Scalable Impact – Solutions engineered to evolve with your business and adapt to future demand.



Contact Us

INDIA

502, Tower-1, World Trade Center, EON Free Zone, Kharadi,
Pune, Maharashtra, India - 411014.

U.S.A

118 E. Main Street, Wallace, North Carolina,
United States NC 28466

Connect with Us

+1 332-287-2075

dushyant.s@vionsys.com

www.vionsys.com

OUR GLOBAL FOOTPRINTS

