

Building intelligent systems for the real world.

Connecting artificial intelligence with sensors, embedded systems, robotics and real-world automation.



AKSHAT MALHOTRA

Applied AI & Hardware Systems Builder

Co-Founder · Tera Compute LLP

SIGNAL PATH



DEPLOYED

AI-powered waste segregation system — vision, embedded compute, sensing and servo actuation.

RECOGNISED

1st Place, AI Picathon among 250 candidates. Runner-Up, Hackstreet among 35 teams.

FILED

Three published patent applications across immersive systems and AI-enabled hardware.

ABOUT

The Builder Behind the Systems

Applied AI and hardware engineering — moving ideas from concept to working physical systems.

Akshat Malhotra is an Applied AI and Hardware Systems Builder working at the intersection of artificial intelligence, embedded computing, IoT, robotics and real-world automation.

As Co-Founder of Tera Compute LLP, he has worked on systems that connect AI models with physical hardware — combining computer vision, embedded computing, sensors, control logic and actuation to move ideas from software concepts to functioning physical systems.

THE DIFFERENTIATOR

AI → HARDWARE → SENSORS → DECISION → ACTION

His approach extends beyond model output — building systems that sense their environment, make decisions and produce a physical response.

CURRENT ROLE

Co-Founder

Tera Compute LLP

June 2025 — Present

PROFESSIONAL EXPERIENCE

AI Developer

KVGAI Tech · Remote

January 2026 — March 2026

INSTITUTIONAL CONTEXT

Tera Compute LLP

DPIIT Recognized Startup · MSME

Registered

Incubated at IPEC TBI

MeitY GENESIS EIR Supported

₹6,00,000

FUNDING / SUPPORT

CORE EXPERTISE

01

Applied AI

Model training and optimisation for real-world deployment.

02

IoT & Connected Systems

Sensors and connected devices linking physical to digital.

03

Embedded Systems

Raspberry Pi and Arduino running inference and control.

04

Robotics & Automation

Actuation, mechanical response and automated workflows.

05

Computer Vision

Image-based classification driving physical decisions.

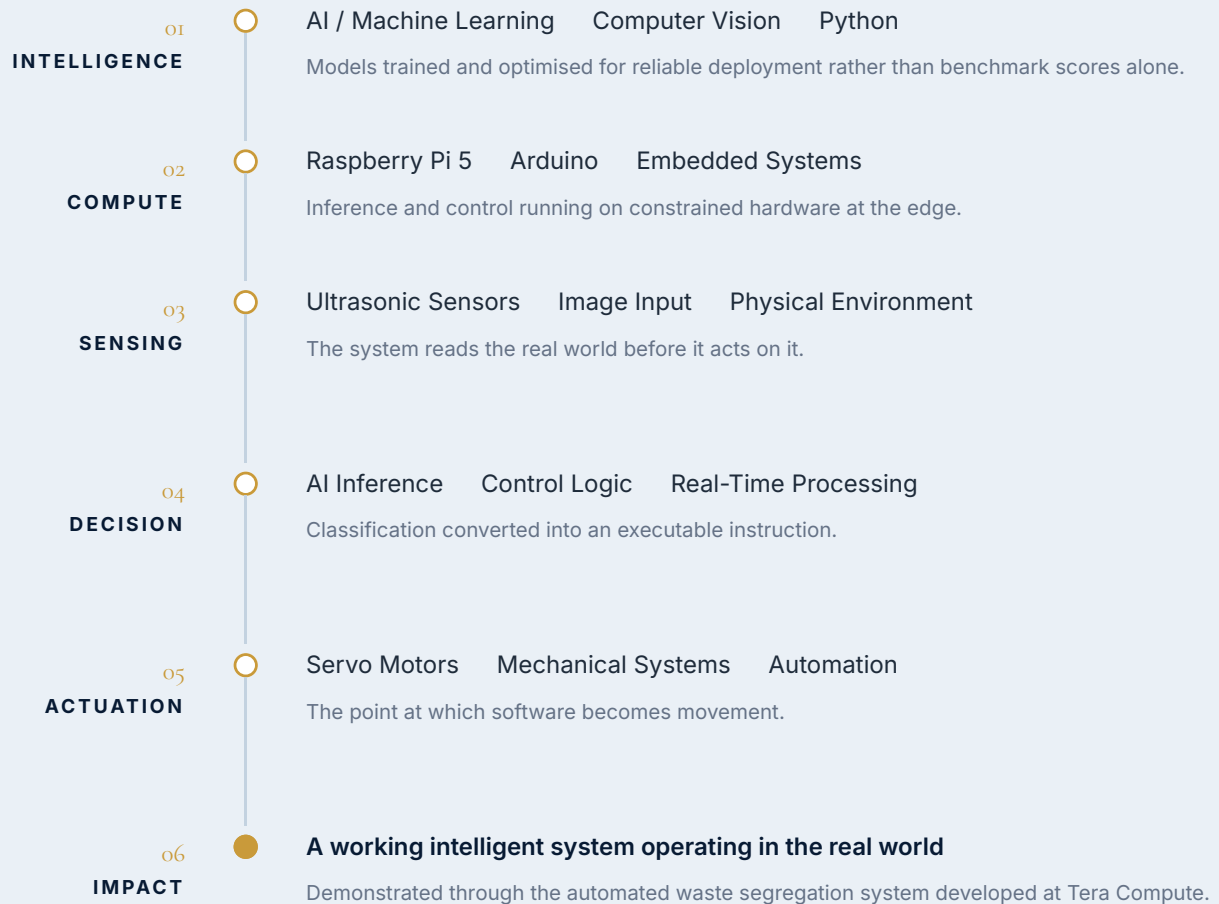
06

AI-Hardware Integration

Real-time execution from model output to mechanism.

From Code to Physical Action

Across his engineering work, intelligence is not treated as an isolated model. It becomes part of a complete physical system — sensing, deciding and acting.



ENGINEERING IMPLEMENTATION

The system brings together image-based AI classification, Raspberry Pi 5 and Arduino computing, ultrasonic sensing, real-time decision logic and servo-driven segregation.

AI-Powered Smart Waste Segregation

From computer vision to automated physical action — designed and implemented at Tera Compute LLP.

01 · THE CHALLENGE

Automating the classification and physical segregation of waste — a task that requires both accurate recognition and a mechanism that can act on the result.

02 · THE SYSTEM

CLASSIFICATION	Image-based AI waste classification
COMPUTE	Raspberry Pi 5 · Arduino
SENSING	Ultrasonic sensors · image input
ACTUATION	Servo motors
INTEGRATION	Code-Red integration between AI models and physical sensors

03 · THE INTELLIGENCE

AI models trained and optimised for image-based waste classification and deployment within a real-world physical segregation workflow.

04 · THE ACTION

Real-time AI-to-hardware decision execution drives a physical mechanism, producing a fully automated waste segregation workflow.

PUBLIC MODEL

A public version of the waste recognition model is available and can be demonstrated on request.

SYSTEM FLOW



05 · THE ENGINEERING VALUE

AI

Models trained and integrated into a working physical system.

IoT

Sensing hardware integrated into the decision loop.

Embedded

Inference and control running on physical computing platforms.

Automation

AI-driven decisions translated into automated physical action.

Technical Depth Across the Stack

Product engineering and AI evaluation work alongside the hardware systems — two further demonstrations of end-to-end capability.

PROJECT 01 · AI PRODUCT DEVELOPMENT & FULL-STACK DEPLOYMENT

PromptVerse.fun

A built and deployed platform for discovering viral AI image prompts, enabling creators to search, explore and reuse high-performing prompts.

FRONTEND

Vercel

BACKEND

Render

DATABASE · AUTH · STORAGE

Supabase

www.promptverse.fun

PROJECT 02 · AI ENGINEERING, DATA & EVALUATION

AI / ML Evaluation Engineering

AI Developer at KVGAI Tech (remote, January – March 2026), designing Kaggle-style ML and data-science benchmark tasks on Taiga to evaluate the reasoning performance of Anthropic Claude Opus 4.5.

EVALUATION DESIGN	10–16 multi-run evaluations per task; task difficulty calibrated to a 10%–50% performance band
DATA PIPELINES	End-to-end problem pipelines with varied datasets, explicit preprocessing and feature engineering
DETERMINISM	Expert solutions in Python using PCG64-seeded RNG; deterministic single-value numeric outputs with fixed rounding
PACKAGING	Submissions packaged with schema-compliant metadata.json

PYTHON MACHINE LEARNING DATA ENGINEERING EVALUATION DESIGN FULL-STACK DEPLOYMENT

RECOGNITION

Built. Tested. Recognised.

Competition outcomes and intellectual property are presented separately — they represent different kinds of technical achievement.

COMPETITION ACHIEVEMENT

01 · AI PICATHON

1st Place

Among 250 candidates

Competition result

02 · HACKSTREET

Runner-Up

Among 35 teams · 120 candidates

Competition result

PUBLISHED PATENT APPLICATIONS

03

Published applications are presented as intellectual-property records; they are not represented as granted patents.

01

A Multidimensional Gaming Sphere with Detachable Seat and Immersive Environmental Integration

Application No.
202511035392 A

02

Immersive Tactical Military Gear System

Application No.
202511035353 A

03

Smart Home Speaker with AI Generative Facilities

Application No.
202511035402 A

RECOGNITION & INTELLECTUAL PROPERTY

Competition recognition

Outcomes achieved through judged engineering and AI challenges.

Intellectual property

Published applications representing original system concepts across immersive environments, tactical equipment and AI-enabled hardware.

Building the Next Generation of Makers

Bringing hands-on engineering, AI and innovation into the school learning environment — helping students move from understanding technology to building with it.

THE LEARNING APPROACH

LEARN



BUILD



TEST



ITERATE



DEMONSTRATE

WHAT STUDENTS CAN EXPERIENCE

IoT

Connected devices, sensors and real-world data.

Robotics

Motors, mechanisms, actuation and automation.

Electronics

Components, circuits, wiring and practical electronics.

Embedded Systems

Microcontrollers, Raspberry Pi and Arduino.

AI + Hardware

Connecting AI with physical systems.

Computer Vision

Using images and AI to understand the physical world.

Intelligent Automation

Systems that sense, decide and act.

Prototype Building

Turning ideas into working demonstrators.

Hardware Innovation

Build challenges, engineering sprints and innovation projects.

LEARNING PATHWAYS — GRADES 3-12

FOUNDATIONS → APPLIED SYSTEMS

STAGE 01

Grades 3 – 8

FOUNDATIONS

- Sensors & everyday technology
- Electronics fundamentals
- Simple circuits
- Introduction to robotics
- Coding through physical computing
- Creative technology projects
- Simple automation
- Build-and-test activities
- Problem-solving through making



STAGE 02

Grades 9 – 12

APPLIED SYSTEMS

- IoT & connected systems
- Robotics & embedded systems
- AI + hardware
- Computer vision
- Intelligent automation
- Prototype development
- Real-world engineering challenges
- Innovation & ideation
- Hardware-based project development

Designed to complement school STEM, innovation and computational-thinking initiatives, and adapted to the institution's grade levels.

INVITATION

From Learning to Building.

Helping students and institutions explore how AI, electronics, IoT and robotics come together to create intelligent systems.

BUILD

Prototype building
Hardware hackathons
Innovation challenges

SYSTEMS

IoT workshops
Robotics workshops
Embedded systems

INTELLIGENCE

AI + hardware
workshops
Computer vision
Intelligent automation

PROGRAMMES

Student expert
sessions
STEM innovation labs
Ideathon mentorship

AVAILABLE FOR

Student Expert Sessions

IoT Workshops

Robotics Workshops

Electronics & Embedded Systems

AI + Hardware Workshops

STEM Innovation Labs

Prototype Building

Hardware Hackathons

Innovation Challenges

Ideathon Mentorship

Invite Akshat Malhotra for an expert session, hardware workshop, prototype-building programme or student innovation challenge.

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+91 82871 82028 · akshatmalhotra309@gmail.com