mindfire
BURN IGNORANCE

AI & ML Solutions Catalog

Intelligence Engineered.

About Our Company

At Mindfire Solutions, we solve complex challenges with custom-engineered software. We are a trusted technology partner for companies across the globe. Our agility, strong engineering culture, and focus on impact enable us to deliver tailored solutions with speed and precision.

From ground-up development to scaling and optimizing existing platforms, our cross-functional teams work seamlessly across the entire product lifecycle; spanning ideation, architecture, development, QA, automation, DevOps, and ongoing support.

- 25+ years old company
- 650+ workforce
- 500+ global clients
- 2000+ successful projects

50 Technology Fast 50 2023 INDIA

INDIAN ACHIEVERS' AWARD 2023-24

INDIA 500 MOST PROMISING IT COMPANY

Deloitte. Technology Fast500 Asia Pacific

Development Strategy

Business-Centric Approach

We prioritize understanding your business workflows, challenges, and opportunities to develop AI solutions that drive real value i.e. enhancing efficiency, unlocking insights, and enabling smarter decision-making.

Scalable and Maintainable Solutions

Whether you're expanding operations, handling increasing data volumes, or adding new use cases, our AI solutions are designed to adapt—delivering consistent performance and value without the need for constant reengineering.

Transparency and Ethics

We ensure that our solutions are explainable, fair, and aligned with our clients' values. From data handling to model behavior, we maintain clear communication and accountability.

Human-AI Collaboration

Our approach combines the efficiency of advanced AI technologies with the insight and intuition of human expertise, ensuring solutions that are not only intelligent but also practical, and user-centric..

Capabilities

End-To-End Expertise

Our team covers the entire AI lifecycle:

- Data Collection & Annotation
- Model Development, Fine-tuning & Evaluation
- Integration with Existing Systems
- Deployment, Monitoring, Retraining & MLOps

Technical Proficiency

Our engineers work hands-on with:

- Deep Learning (CNNs, RNNs, GANs, Transformers, LLMs, Diffusions)
- Machine learning (Supervised, Unsupervised, Time Series, Probabilistic Models)
- ML Frameworks (TensorFlow, PyTorch, Scikit-learn, ONNX)
- NLP (Embeddings, Vector Tools, Sequence Models)
- Cloud AI Platforms (AWS SageMaker / Bedrock, Azure AI Services, Google Vertex AI)
- MLOps Tools (MLflow, DVC, FastAPI, Docker, Kubernetes)
- Foundational Models (Hugging Face)

Our Core

AI/ML Services

- Computer Vision & Image AI
- NLP & Language Intelligence
- Predictive Analytics & ML Ops
- Generative AI & Automation
- Agentic AI & Autonomy
- Voice, Audio & Speech AI

Computer Vision & Image AI

What We Do

We build systems that can interpret images and videos to solve real business problems

Use Cases

- Product detection in images for e-commerce
- Document scanning and data extraction
- Real-time quality checks using camera feeds
- Virtual try-on solutions for retail
- Medical image analysis for diagnostics

Business Impact

- Reduces manual validation effort
- Speeds up operations where visual inputs are key
- Enables automation at scale in physical environments

NLP & Language Intelligence

What We Do

We build AI systems that can read, understand, and respond to human language—structured or unstructured.

Use Cases

- Chatbots for customer support and internal queries
- Document summarization and auto-tagging
- Resume parsing for recruitment platforms
- Intelligent search across large knowledge bases
- LLM-based insight generation from reports

Business Impact

- Cuts down response time and manual work
- Unlocks value from unstructured data
- Enables better decision-making from large volumes of text

Voice, Audio & Speech AI

What We Do

We develop AI systems that understand, process, and analyze voice data in real time or from recordings.

Use Cases

- Speech-to-text and text-to-speech for multilingual apps
- Voice command systems for hands-free operations
- Speaker identification and authentication
- Call center analytics and sentiment tagging
- Audio-based feedback classification

Business Impact

- Makes voice data searchable and actionable
- Enables automation in call-heavy workflows
- Improves customer insights from support interactions

Generative AI & Automation

What We Do

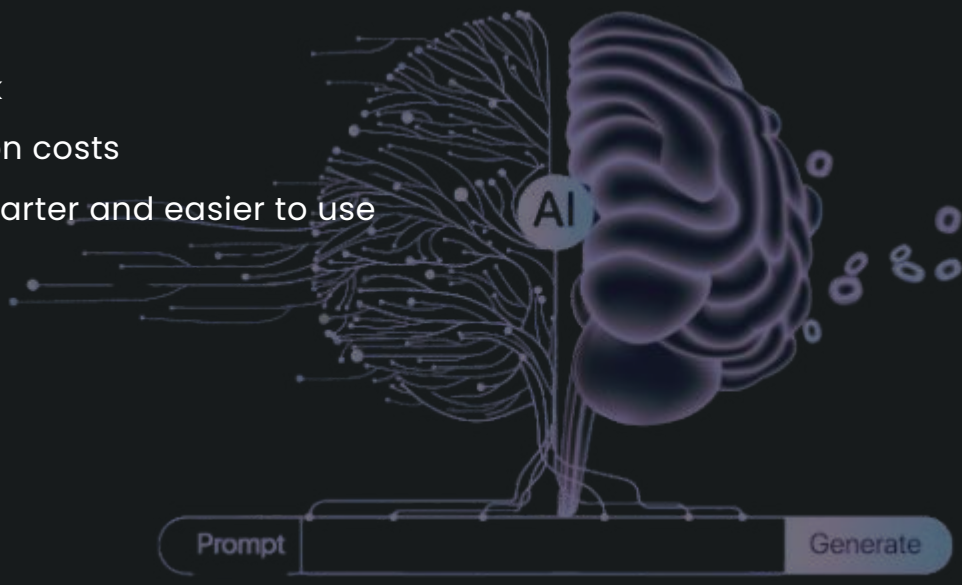
We use LLMs and generative models to automate content creation, summarization, and complex data interactions.

Use Cases

- Generated product descriptions, price guide, and reports
- Meeting summarizers and follow-up action generators
- Prompt-based Q&A systems for enterprise knowledge base
- Code generation assistants for internal tools
- RAG pipelines for context-aware AI output

Business Impact

- Speeds up knowledge work
- Reduces content production costs
- Makes internal systems smarter and easier to use



Agentic AI & Autonomy

What We Do

We build intelligent agents that can sense, decide, and act autonomously—pursuing goals, adapting to feedback, and operating with minimal human intervention.

Use Cases

- Service customer queries seamlessly using multi-agent orchestration
- Driving vision test with AI-assisted refractionist
- Building proposal documents via a multi-tool orchestration framework
- AI-driven testing by generating test cases, scripts, and executing tests automatically.
- Multi-agent collaboration through connected knowledge bases.

Business Impact

- Reduces dependency on human agents for routine support
- Ensures faster, consistent, and context-aware customer resolutions
- Enables round-the-clock service through intelligent agent collaboration

Predictive Analytics & ML Ops

What We Do

We design and deploy models that analyze historical data to predict what's likely to happen next and ensure they stay reliable in production.

Use Cases

- Demand forecasting for inventory and sales
- Customer segmentation for personalized campaigns
- Risk scoring in finance and insurance workflows
- Churn prediction for SaaS and subscription models
- Anomaly detection for fraud and system monitoring

Business Impact

- Enables proactive decision-making
- Reduces losses from unexpected trends
- Keeps predictive models accurate and accountable

CASE STUDY

AI-based Cost Estimation from HVAC Symbols

Developed an AI-powered solution that automates the extraction of HVAC symbols from schematic diagrams and estimates costs using a machine learning pipeline. The system streamlines manual interpretation, reducing human error and accelerating the quotation process.

Scope of Work

Automate symbol recognition and link it with historical costing data to deliver near-instantaneous HVAC estimates.

Impact

Reduced quote generation time and enabled accurate, scalable cost predictions for complex HVAC projects.

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CASE STUDY

AI Roof Visualization Tool for Construction

Developed an AI-powered visualization tool for photorealistic roof previews. Using models like YOLO, Mask R-CNN, and Grounding DINO, it detects roof areas and overlays shingle textures.

Scope of Work

Automate roof detection and enable realistic shingle overlays through advanced segmentation, extrapolation, and perspective warping techniques.

Impact

Streamlined the roofing material selection process, increased customer engagement, and reduced manual effort and design cycle time for contractors.

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CASE STUDY

Deep Learning based Virtual Try-On for Apparel

Built a deep learning solution enabling users to virtually try on clothing, enhancing online purchase decisions. Using GANs and UNET architectures, the system overlays garments on a fixed avatar with high realism.

Scope of Work

Developed a GAN-based virtual try-on pipeline to swap high-resolution garments onto avatars, with customized training optimization to reduce processing time.

Impact

Enabled faster decision-making for shoppers and reduced return rates, delivering high-quality, scalable try-on experiences for apparel retailers.

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CASE STUDY

RAG-Based Chatbot to Boost Efficiency

Implemented a Retrieval-Augmented Generation chatbot integrating open-source LLMs and vector databases like FAISS and Chroma for enterprise-grade search and assistance. It delivers real-time, context-aware, and source-linked responses.

Scope of Work

Build a configurable RAG framework using Langchain and FastAPI to power intelligent, multi-domain chat experiences.

Impact

Increased employee productivity by enabling instant access to distributed knowledge, reducing dependency on human experts.

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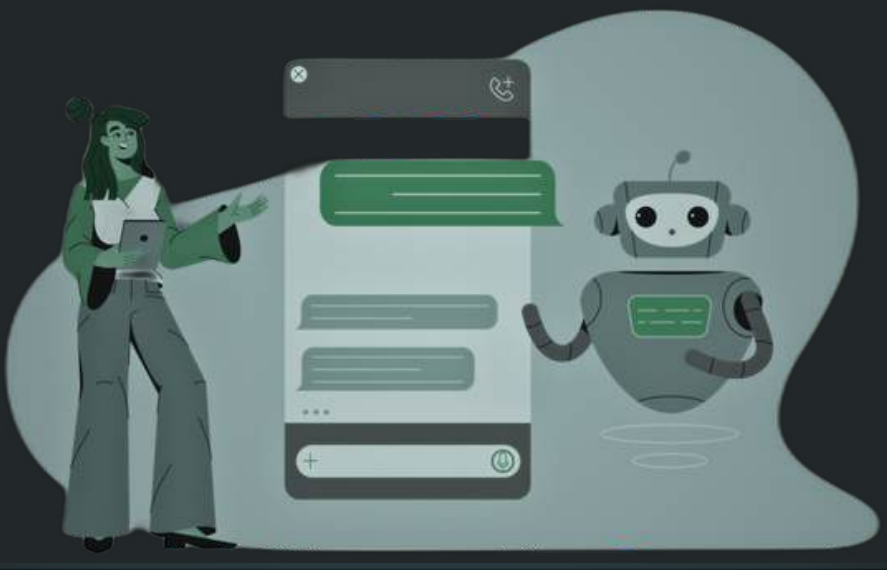

CASE STUDY

AI Search Assistant for Complex Government Websites

Built a custom AI-powered search assistant for complex government websites to simplify navigation and information retrieval. By training the chatbot on site-specific content using LangChain and vector embeddings, users receive accurate, contextual answers from vast data sources.

Scope of Work

Train an AI chatbot to crawl, index, and retrieve content from entire government websites and documents, with contextual search and real-time query resolution.

Impact

Enhanced user satisfaction by delivering accurate, document-level responses; improved accessibility to complex government content and reduced search friction.

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CASE STUDY

AI-Powered Redaction Tool

Built a secure, AI-based redaction tool to automate the removal of sensitive data from PDFs and images. Designed for financial, insurance, and healthcare firms, the platform supports both cloud and on-premise deployment.

Scope of Work

Developed an OCR-enabled redaction API using FastAPI, integrated with Google Vision and Tesseract, scalable via Docker and Kubernetes

Impact

Streamlined large-scale redaction workflows, improved compliance, and enabled flexible, secure document processing across regulated industries.

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CASE STUDY

AI-Powered Finance Chatbot

Developed a finance-specific AI chatbot using OpenAI APIs and LangChain to extract answers directly from internal PDFs. The chatbot reduces search time by 90%, eliminating the need for users to navigate multiple pages.

Scope of Work

Built an LLM-based chatbot powered by OpenAI embeddings and vector DBs (FAISS/Chroma) to query and respond using only client-provided financial documents.

Impact

Accelerated information retrieval, enhanced customer experience, and reduced manual effort for financial data access across the client's digital platforms.

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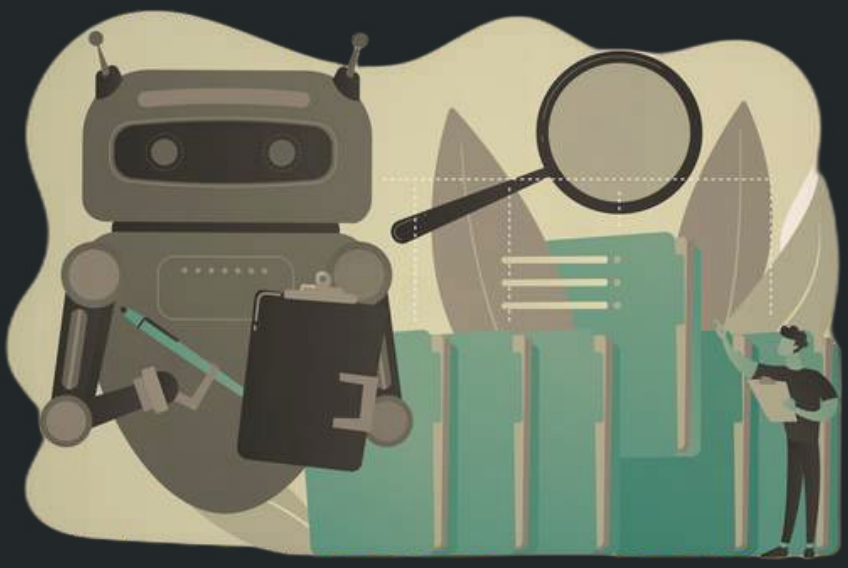

CASE STUDY

Color Correction Application for Fashion Publishing

Developed a web-based tool that automates color correction of clothing images using OpenCV and Photoshop APIs. It eliminates manual Photoshop work, ensuring consistent and accurate color representation at scale.

Scope of Work

Built a Django-React app integrated with Dropbox, OpenCV, and Photoshop APIs to batch-process and auto-correct clothing image colors using laydown references.

Impact

Accelerated information retrieval, enhanced customer experience, and reduced manual effort for financial data access across the client's digital platforms.

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CASE STUDY

Google Analytics – AI Scorer

Developed a cloud-native AI scoring system using GCP, PyTorch, and BigQuery to evaluate and rank site visitors based on behavioral signals. It predicts conversion potential, enabling smarter ad targeting.

Scope of Work

Build an AI engine that consumes GA data, transforms it, and applies classification models for audience scoring.

Impact

Empowered marketing teams to optimize campaigns, boosting ROI through precision targeting.

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CASE STUDY

Deep Learning Induced Background Matting

Engineered a custom image matting model using PyTorch and OpenCV to remove mannequin backgrounds while preserving high-fidelity edge details, enhancing product visuals.

Scope of Work

Apply deep learning techniques to automate ghost mannequin effects for fashion/eCommerce visuals.

Impact

Reduced post-processing time for image editing teams while improving visual output for product listings.

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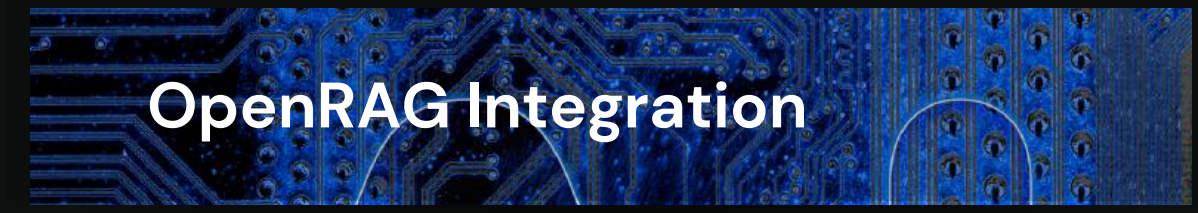
Blog Library

Explore our collection of QA and testing blogs —
Real-world insights, best practices, and industry-specific solutions.

CLICK A CATEGORY TO DIVE IN



Security, Ethics & Governance

Data Security

- We follow strict data handling protocols: encryption, anonymization, access control.
- Cloud deployments comply with enterprise-grade standards.

Responsible AI

- Every model we build is auditable.
- Bias checks, test coverage, and human validation are built into our workflow.
- We never deploy black-box systems where risk is high.

Compliance & Control

- Support for GDPR-ready data workflows.
- Clients retain ownership of data, models, and results.
- We document every major decision—model choice, dataset, evaluation logic.

Client Testimonials

Hear directly from our clients on our quality, collaboration, and reliability. These testimonials reflect the trust and value we deliver through every engagement, across industries and project complexities.

"We were able to instantly on-board ultra-high quality QA engineers with low risk and high cooperation."

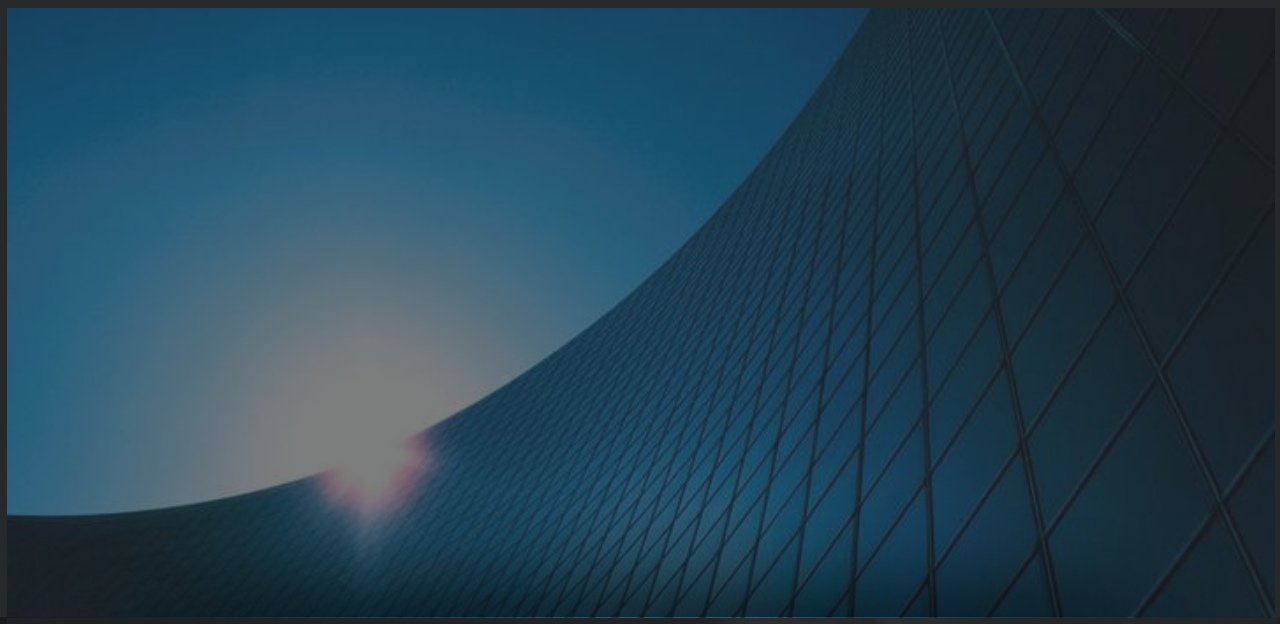
Erik Fogg

"They have been professional, conscientious, timely and strive to provide quality work."

Patrick Ashworth

"Mindfire's IT and project support team is fantastic, approachable, and always on tap for discussion and input."

Howie Jones



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