



Power Your Business with AI

By Matrix Media AI-Lab

India | Singapore | United States



An abstract graphic in the top right corner of the slide. It consists of a complex network of small blue dots (nodes) connected by thin, light gray lines (edges). The network is dense and irregular, with many overlapping connections, suggesting a complex system or data structure. The overall shape of the network is roughly triangular, pointing towards the top right corner of the slide.

Introduction to Matrix Media Solutions



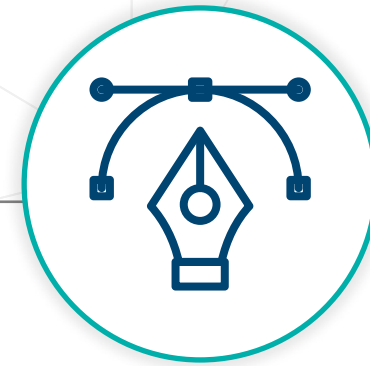
Introduction

Matrix Media is an **India-based technology services company** that thrives on innovation and ideation. Its **150+ strong team** includes Project Managers, Software developers, Cloud Architects, Data Engineers, and AI/ML specialists from India and Singapore.



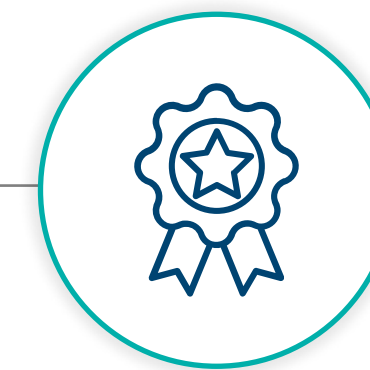
Trusted by clients globally

India, France, Switzerland, the Netherlands, the United Arab Emirates, Saudi Arabia, Singapore, Malaysia, the UK and the USA



Broad set of capabilities

Enterprise Software
Web/App Development
Gamification Internet of Things AI and ML



Quality Assurance

Rigorous approach to project management to ensure quality and satisfaction. ISO 9001:2105 Certified by BSI UK



Multi disciplinary and dedicated team of specialists

Project Managers, UI/UX Designers, Developers, Cloud Engineers, Data Scientists



**With over 21 years of
experience, we
understand, create and
develop technological
solutions for a wide
range of businesses.**



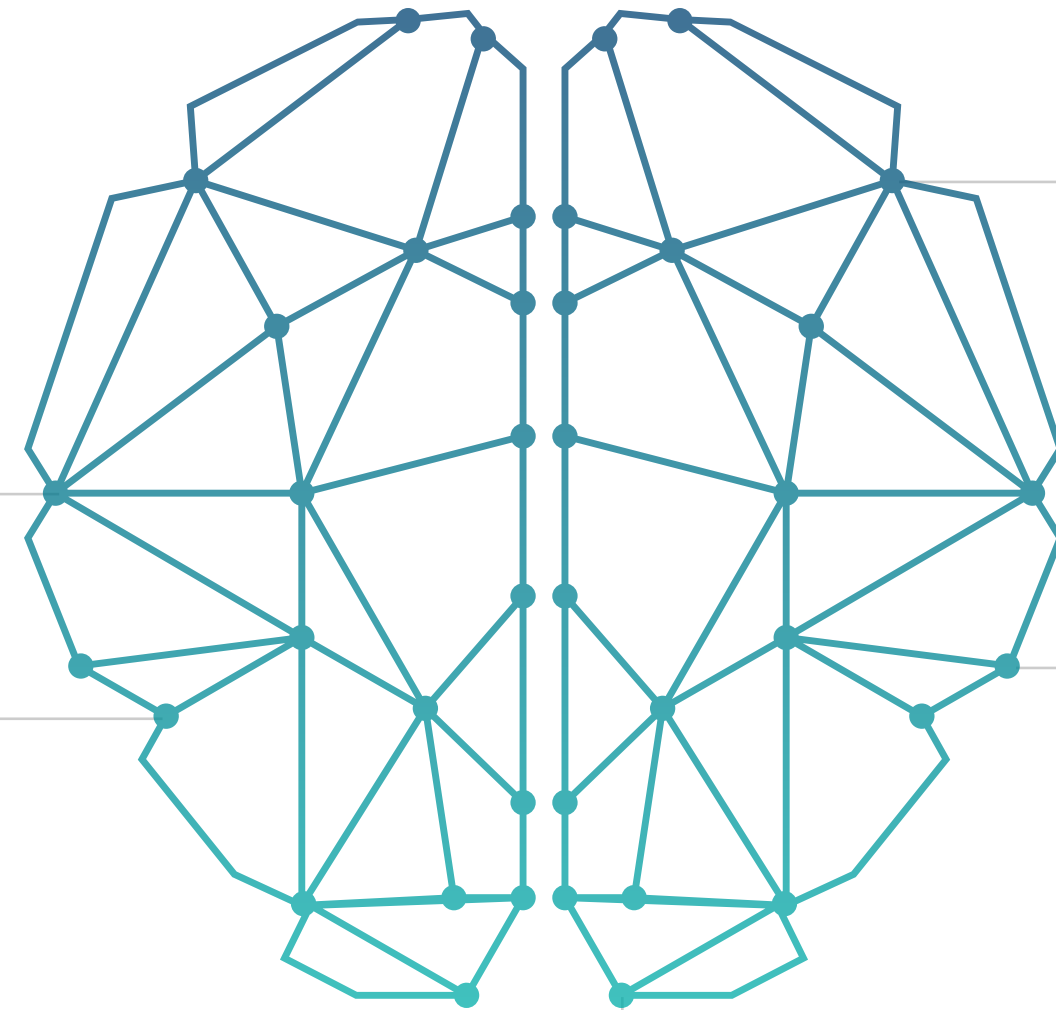
Our Services

Artificial Intelligence / Machine Learning

- Predictive AI
- Cognitive AI
- Conversational AI
- Generative AI

Digital Transformation

- Corporate Web Portals
- E-Commerce
- Campaign Digitization



Custom Development

- Enterprise Software
- Internet of Things
- Business Automation

Gamification

- Interactive Campaigns
- Education Games
- Augmented Reality

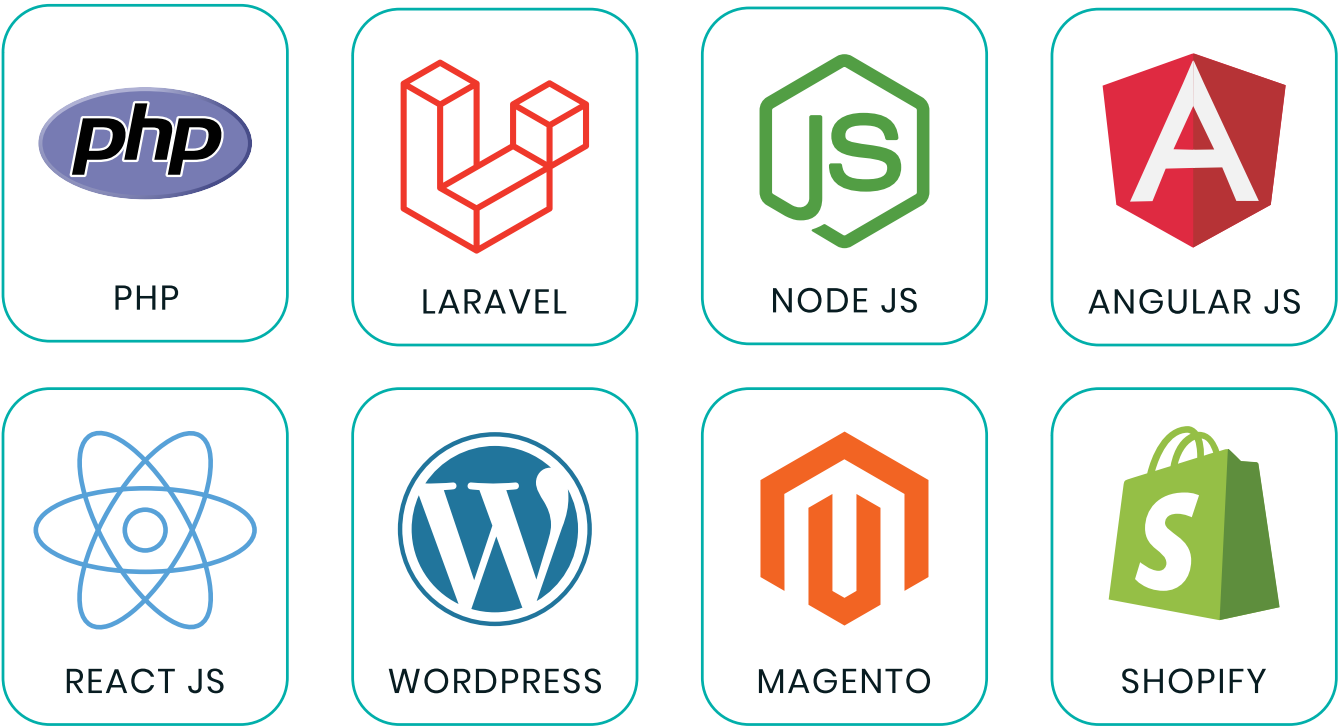
Mobile Development

- iOS / Android Native Apps
- Hybrid / Web Apps
- API/Payment Integrations

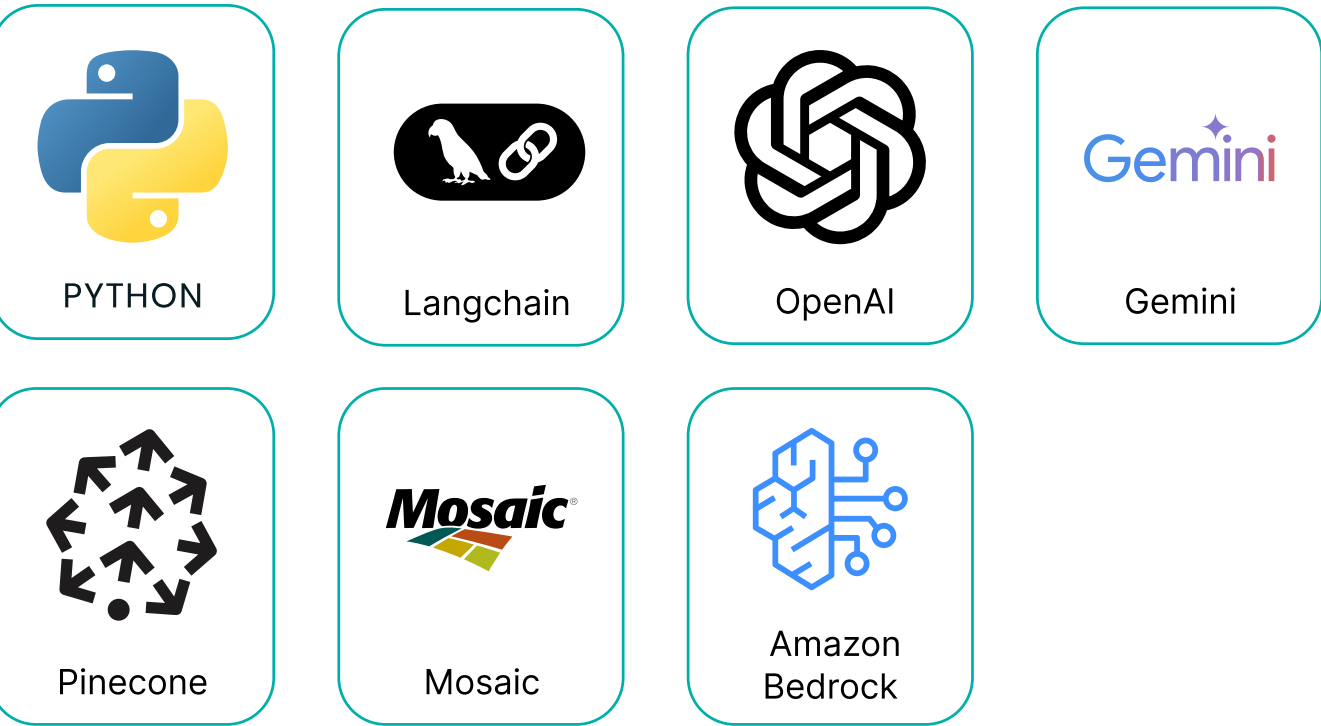


Technologies

Web



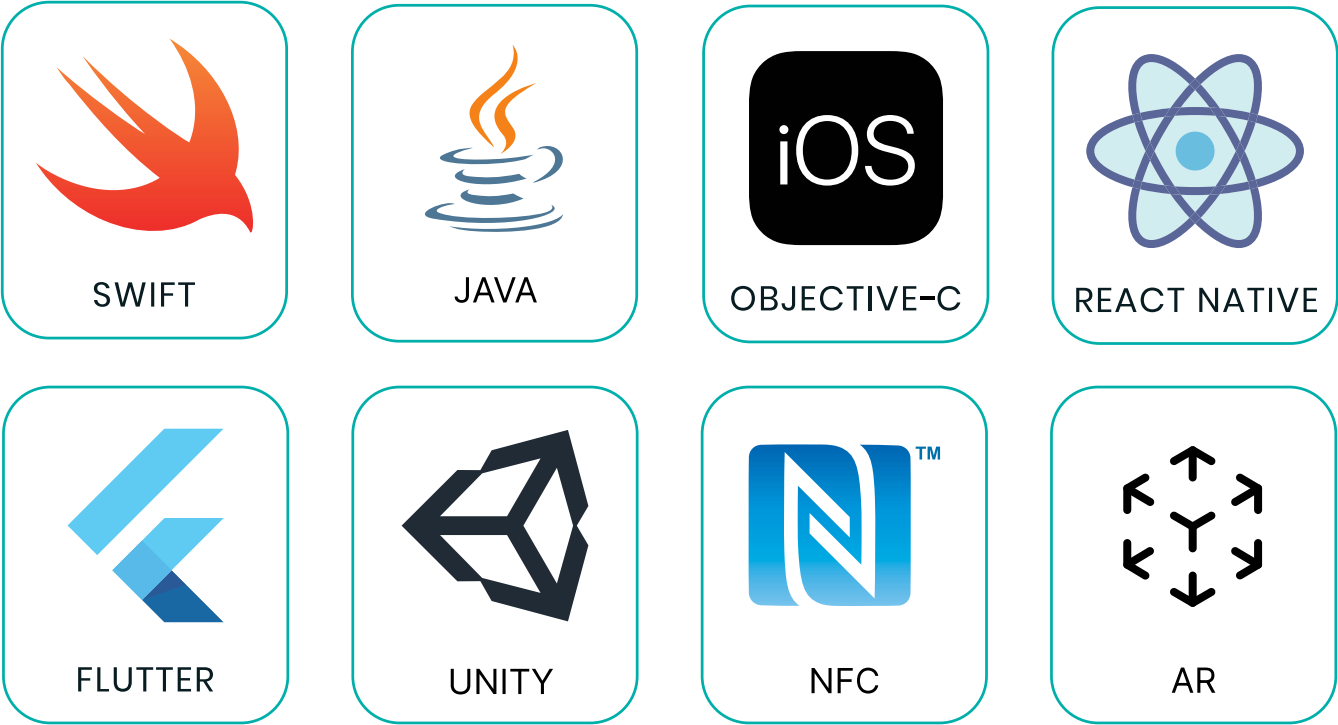
AI / ML



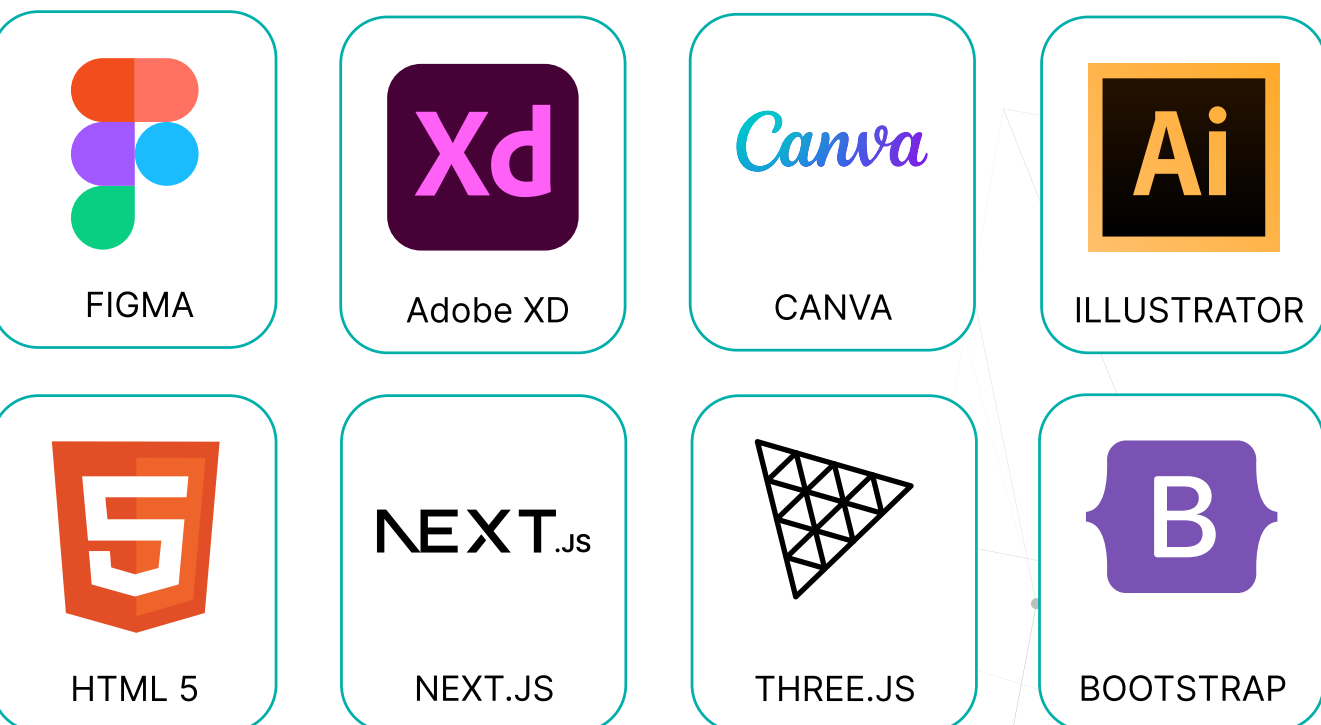
Server Infra



Mobile



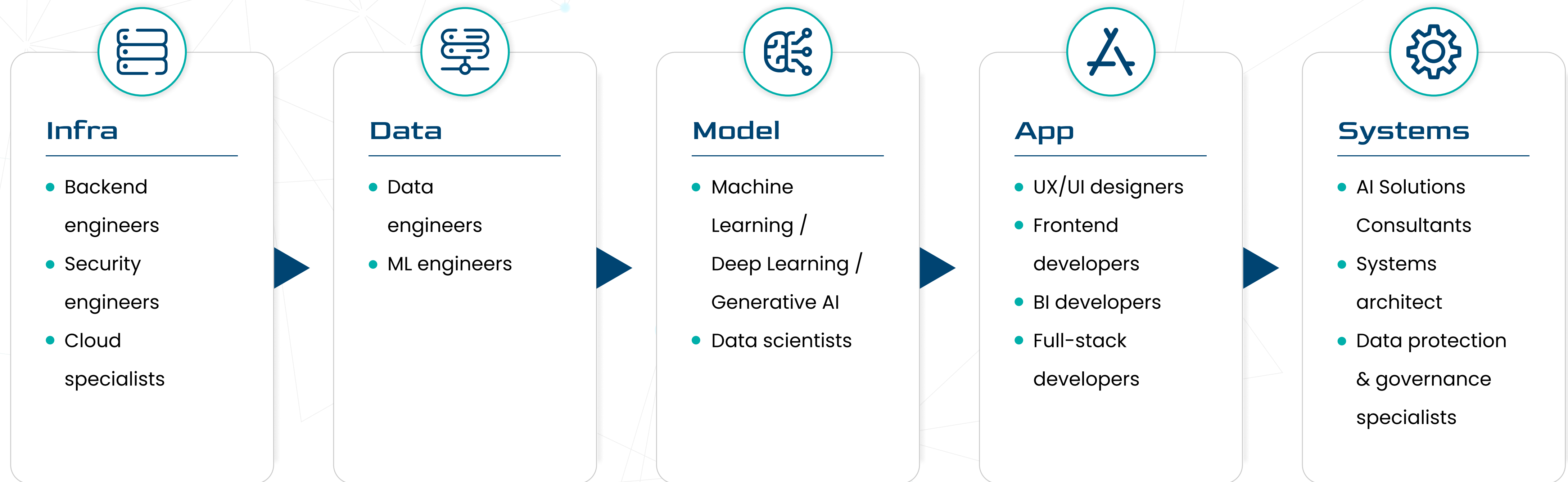
UI / UX



All things AI



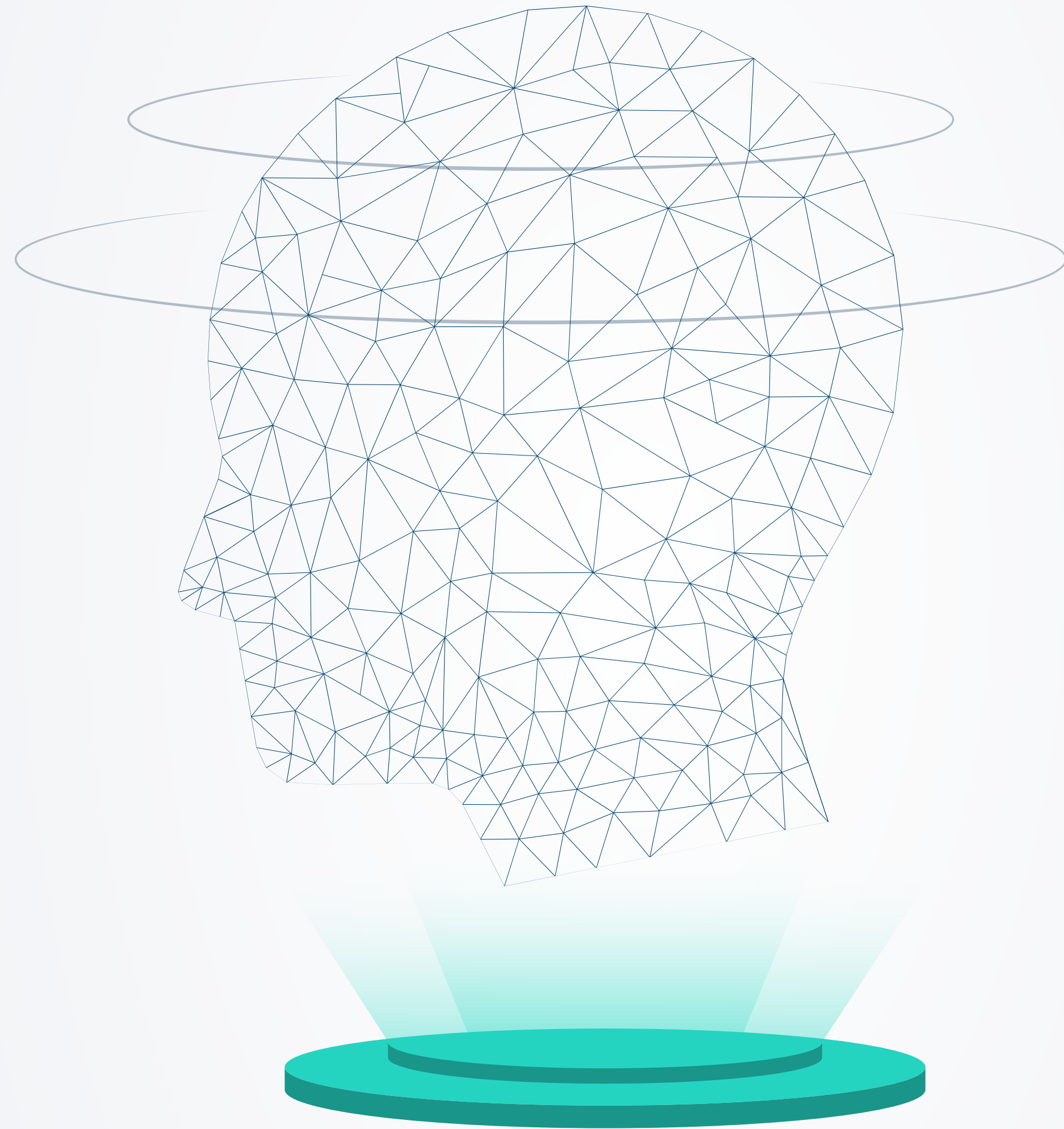
A multi-disciplinary team of specialists



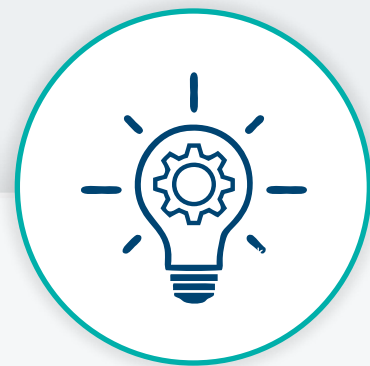
Our recent clients



Matrix Media AI-Lab service suite



AI apps service suite



Predictive AI

THINK
like a Human

E.g. sales forecasting,
churn prediction,
recommendation /
optimization engine.



Cognitive AI

UNDERSTAND
like a Human

E.g. natural language
processing, speech
recognition, computer
vision.



Conversational AI

COMMUNICATE
like a Human

E.g. chatbots, digital
concierge, enterprise
conversation AI.



Generative AI

CREATE
like a Human

E.g. text, image and video
generation using AI models,
AI powered learning.



A robust process map for AI deployment



Data Discovery

- Understanding of business needs.
- Set objectives Identification of data sources.
- Preliminary data exploration.
- Define the approach to model development.



Data Preparation

- Set-up of AI development environment.
- Data ingestion.
- Data cleaning, labelling and transformation.
- Feature extraction.



Model Development

- Split training, validation, and test datasets.
- Appropriate model selection.
- Optimize hyperparameters and validate performance.



Model Evaluation

- Evaluate the model's accuracy, precision and recall using test data sets.
- Refine models
- Move the final models into staging environment.



Model Deployment

- Integrate the trained model into the production environment.
- Setup APIs for real-time application.
- Monitor and update models.

1

2

3

4

5



Our AI and Machine Learning models

AI / Machine Learning Models

Supervised Learning

- Linear Regression
- Logistic Regression
- Binary Classification
- Multi-class Classification

Unsupervised Learning

- Clustering
- Dimensionality Reduction
- Associative Rule Mining

Semi-supervised Learning

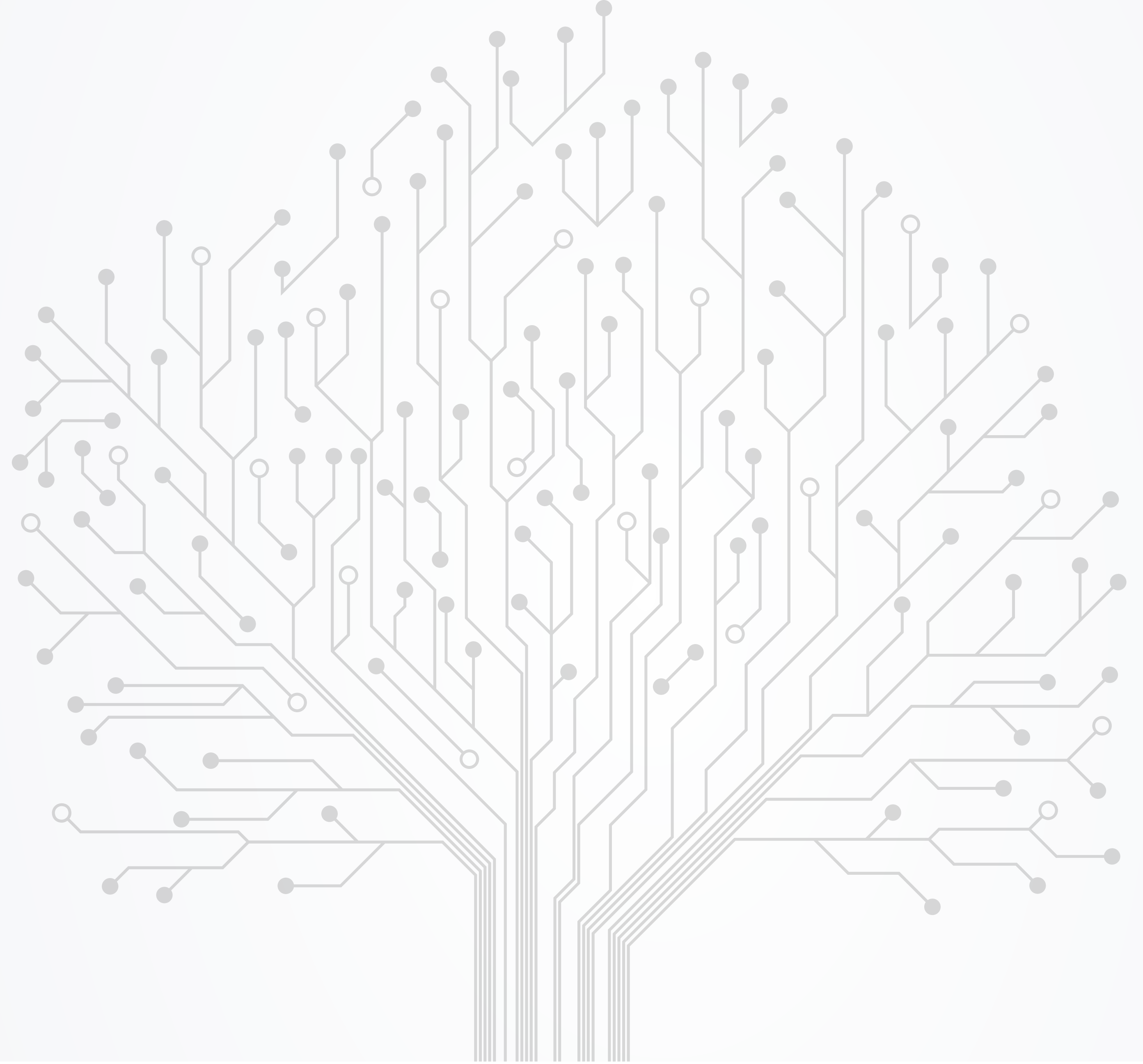
- Self-learning
- Co-learning
- Graph-based Methods
- Generative Learning
- Semi-supervised Support Vector Machines

Reinforcement Learning

- Model-based Algorithms
- Model-free Algorithms
- Exploration Strategies



Matrix Media AI-Lab products suite



01. Sentinel – brand sentiment analysis

Problem

The traditional manual analysis of social media content is time-consuming and prone to human error, making it challenging to maintain real-time insights and promptly respond to customer needs.

The company needs a scalable solution to monitor vast amounts of user-generated content across various social media platforms to quickly identify emerging trends, customer sentiments, and potential risks.

Solution

Automated Sentiment Analysis using LLMs:

Utilize Large Language Models (LLMs) to automatically process and categorize vast amounts of social media content, delivering real-time sentiment analysis and deeper insights into customer emotions, trends, and potential risks.

Scalable Ingestion and LLM-Based Analysis:

Implement AI-driven ingestion processes coupled with LLMs to handle large-scale data efficiently, enabling continuous monitoring, automated extraction of insights, and faster decision-making, all while minimizing the need for manual intervention.

Industry

PR & Marketing, Retail



01. Sentinel – brand sentiment analysis

Benefits

Real-Time Insights:

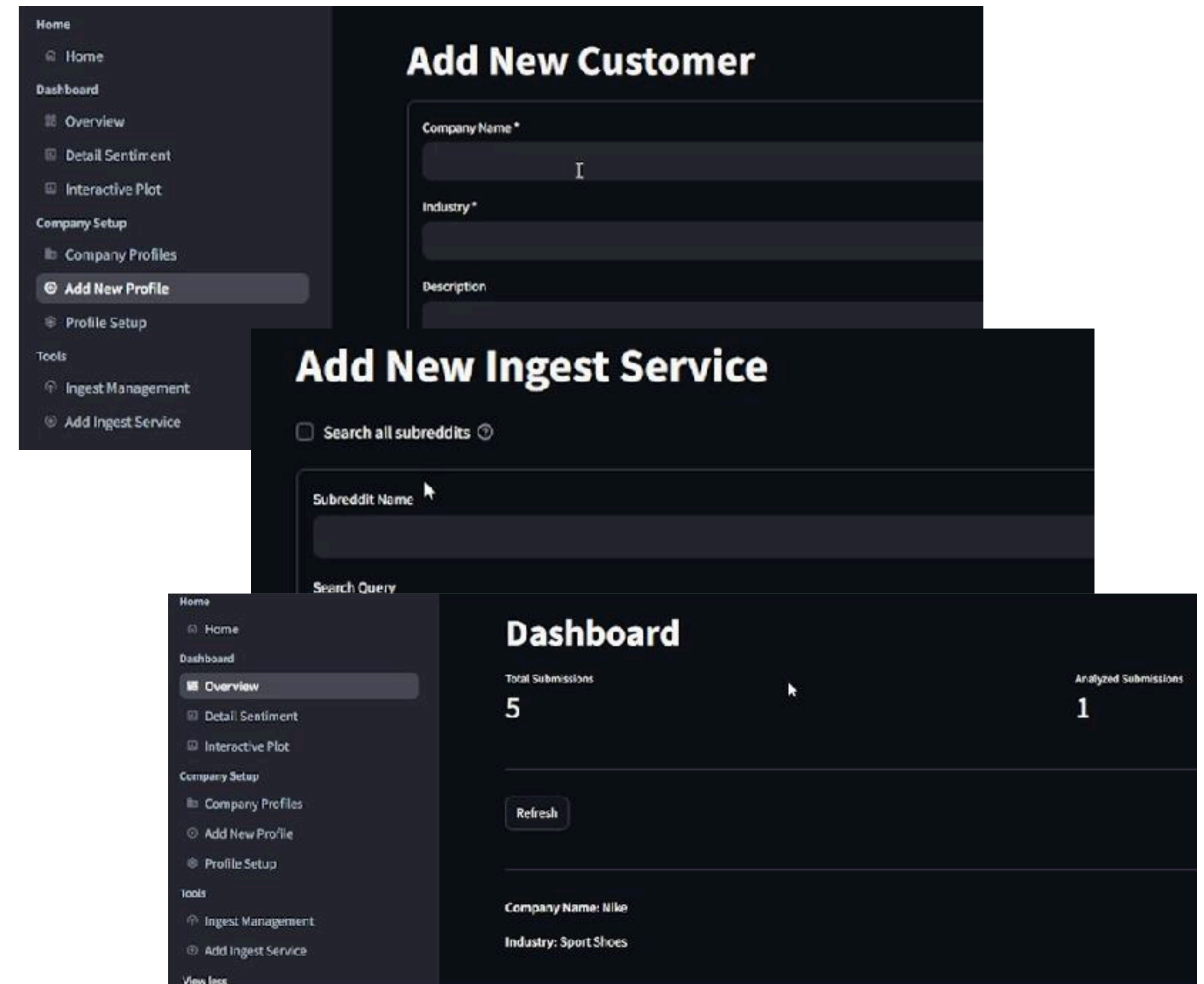
Gain immediate access to actionable insights from social media content, enabling proactive responses to emerging trends and customer concerns.

Enhanced Decision-Making:

Leverage AI-driven analysis to support data-driven decision-making, reducing the time and resources needed for manual data interpretation.

Improved Customer Engagement:

By understanding customer sentiment in real-time, businesses can tailor their engagement strategies, leading to improved customer satisfaction and loyalty.



02. Virtuso – virtual assistant chatbot

Problem

The current system of finding specific information is cumbersome and time consuming.

Users waste valuable time sifting through documents, often coming up empty-handed or finding outdated information.

Solution

We developed a chatbot that leverages a RAG model to provide precise answers based on the company's documentation.

We created an API gateway to ingest documents in various formats and do content processing by accurately extracting a segment relevant information from the ingested document.

The system has been built with embedding generation that capture the semantic meaning of content chunk.

The chatbot would identify the most relevant document sections based on similarity scores and present the answer to the user in a clear and concise manner.

Industry

Legal, Sales, HR, Manufacturing, Finance, PR & Marketing, Retail



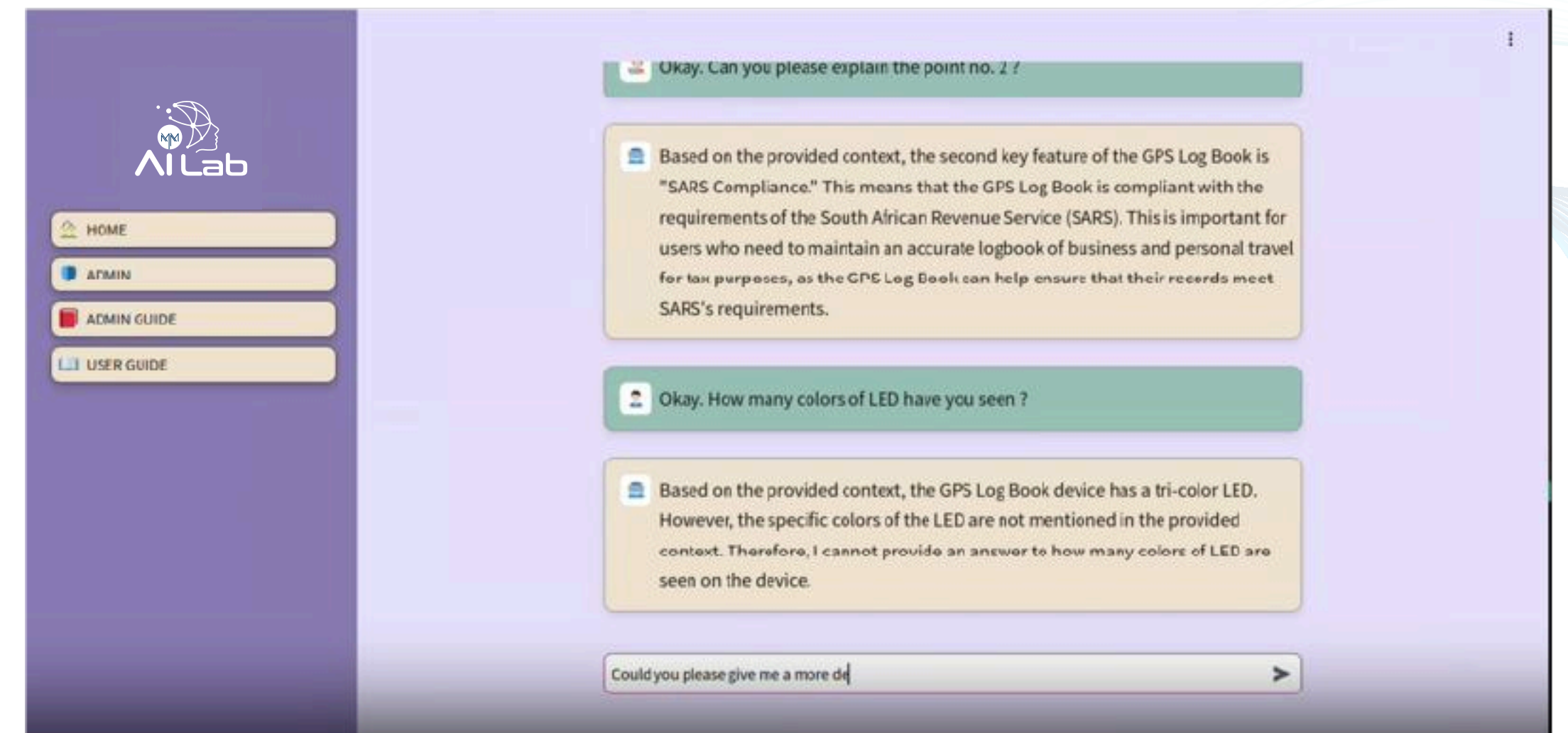
02. Virtuso – virtual assistant chatbot

Benefits

Reduce the time in presenting answers – maximizing the productivity output of the user and reducing ‘wasted’ time.

Ensure that presented answers are accurate, without hallucination, and in **real-time**.

Reduce operational costs and improvements in efficiency as a result of using the system.



03. eComAI – product review summary

Problem

The current system of finding specific information is cumbersome and time consuming. Consumers find it difficult to pinpoint the key pros and cons of a product due to varied and conflicting views.

Businesses need to grasp customer sentiments and feedback, but manually analyzing large volumes of reviews is impractical and costly.

Solution

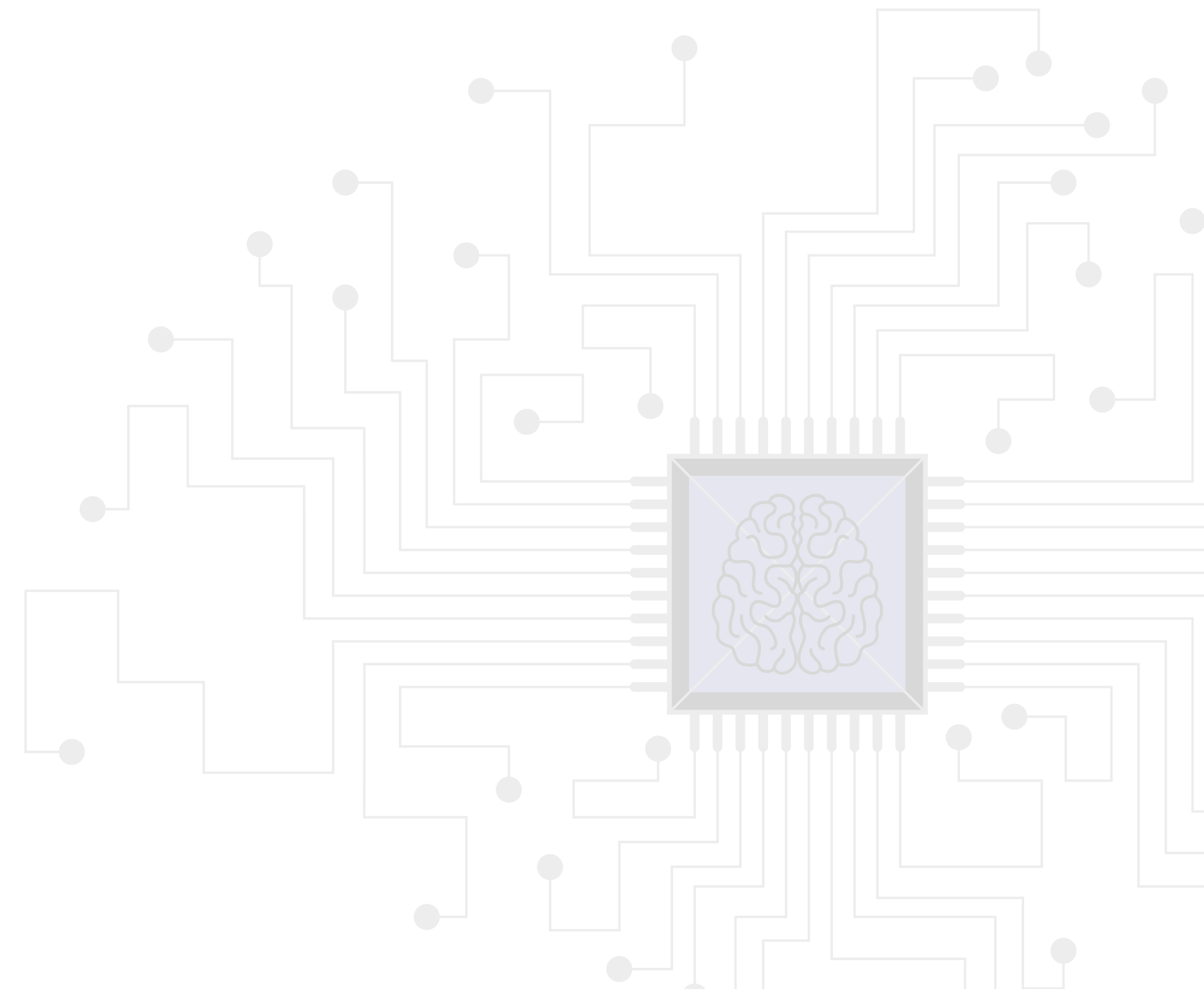
We have created a gateway for data ingestion to ingest data from various review sections and process data.

We then develop a machine learning model using Llama 3 (LLM) to take into consideration ratings and generate summary review when the user presses the button to generate the product review summary.

Caching has also been included so that the system can store cached information to prevent unnecessary and repetitive summary generation.

Industry

Manufacturing, PR & Marketing, Retail



03. eComAI – product review summary

Benefits

Reduce the time in generating review summary – maximizing the productivity output of the user and reducing ‘wasted’ time.

Ensure that the presented information is accurate and the response is real-time.

Reduce operational costs and improvements in efficiency as a result of using the system.



04. SuDA – supply demand forecasting

Problem

Bike-sharing services help reduce greenhouse gas emissions by encouraging more commuters to travel by bike instead of vehicles.

To provide a cost-efficient service, the bike-sharing company must optimize the number of bikes available at each station at any point of time.

Solution

We created an API gateway to ingest real-time usage data from the client and other data sources including weather and traffic conditions.

After preparing the data, we trained the data using different AI/machine learning models to identify the model that best-predicted bike demand.

Eventually, the Long Short-Term Memory (LSTM) model was selected based on its performance and deployed in the production server.

An admin console was built using Django, Flask and Angular to show the forecasts in real-time and trigger alerts to the operator.

Industry

Finance, Sales, PR & Marketing, Retail



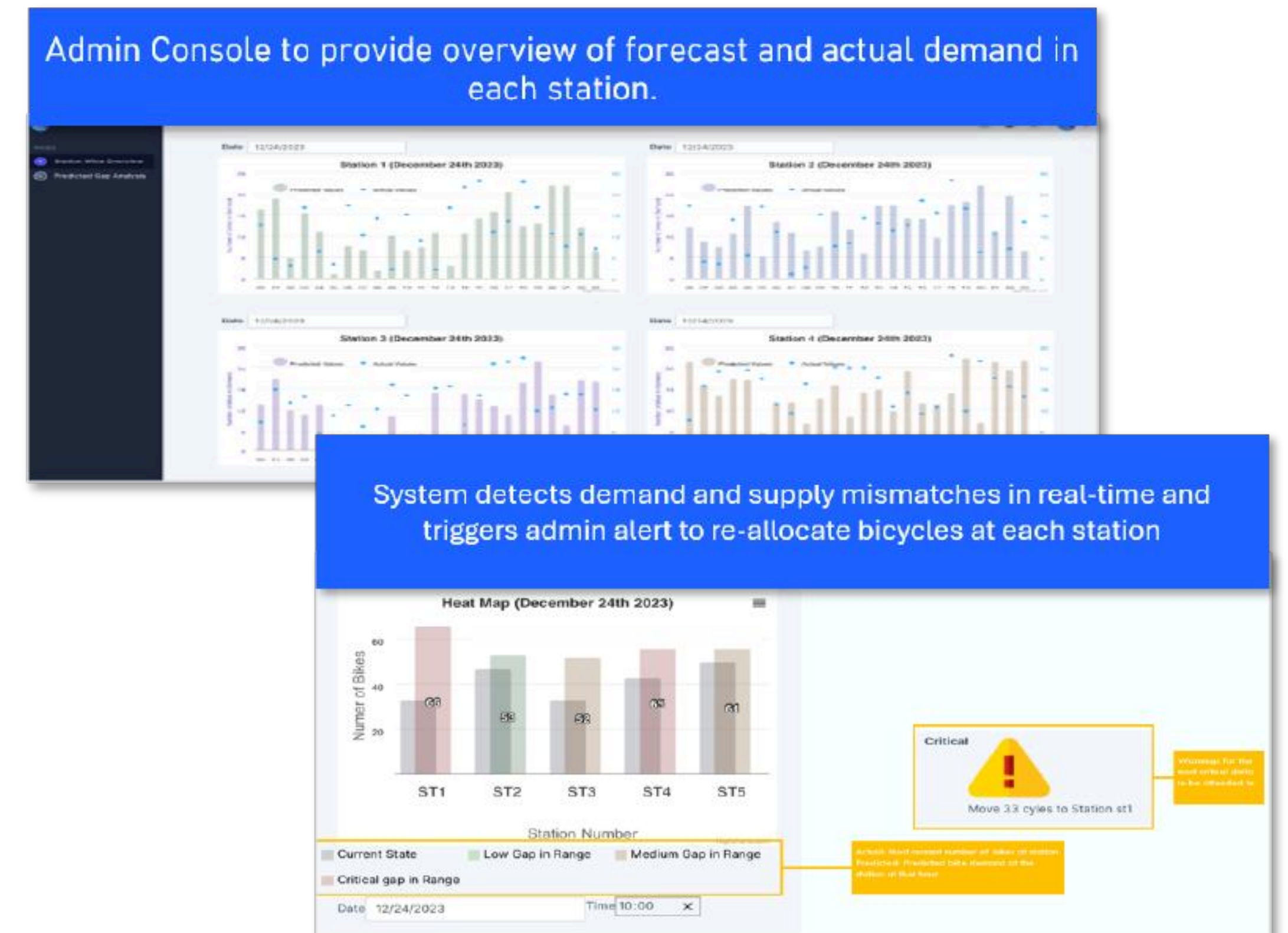
04. SuDA – supply demand forecasting

Benefits

Real-time hour-by-hour demand forecasts for every bike station.

Ensure that **utilization of bikes** at every station is between **85% – 95%** at any point of time through notifications to admin.

Reduce the likelihood of “stock-out” maximizing revenue for the company and reducing customer complaints.



05. Mental Health Monitoring Systems

Problem

Balancing minimal latency with high precision in detecting emotions proved challenging, especially under diverse lighting conditions and varying facial orientations.

Safeguarding sensitive emotional data and video feeds required strong encryption protocols and compliance with stringent privacy regulations to build user trust.

Designing an intuitive, accessible system for non-technical users posed difficulties, particularly when integrating complex AI functionalities into a user-friendly experience.

Solution

We implemented convolutional neural networks to accurately identify seven primary emotions from real-time facial expressions, ensuring high precision in various scenarios.

Designed a system capable of immediate emotion analysis using advanced computer vision, minimizing latency for effective real-time feedback.

Ensured reliable functionality across diverse lighting conditions and facial orientations, enhancing adaptability and usability for various environments.

Developed an intuitive interface that simplifies usage, making mental health monitoring accessible even for individuals with minimal technical expertise.

Industry

Healthcare Industry



05. Mental Health Monitoring Systems

Benefits

Early Detection of Emotional Distress:

Enables timely identification of mental health concerns, promoting proactive interventions and reducing the risk of escalation.

Personalized Mental Health Support:

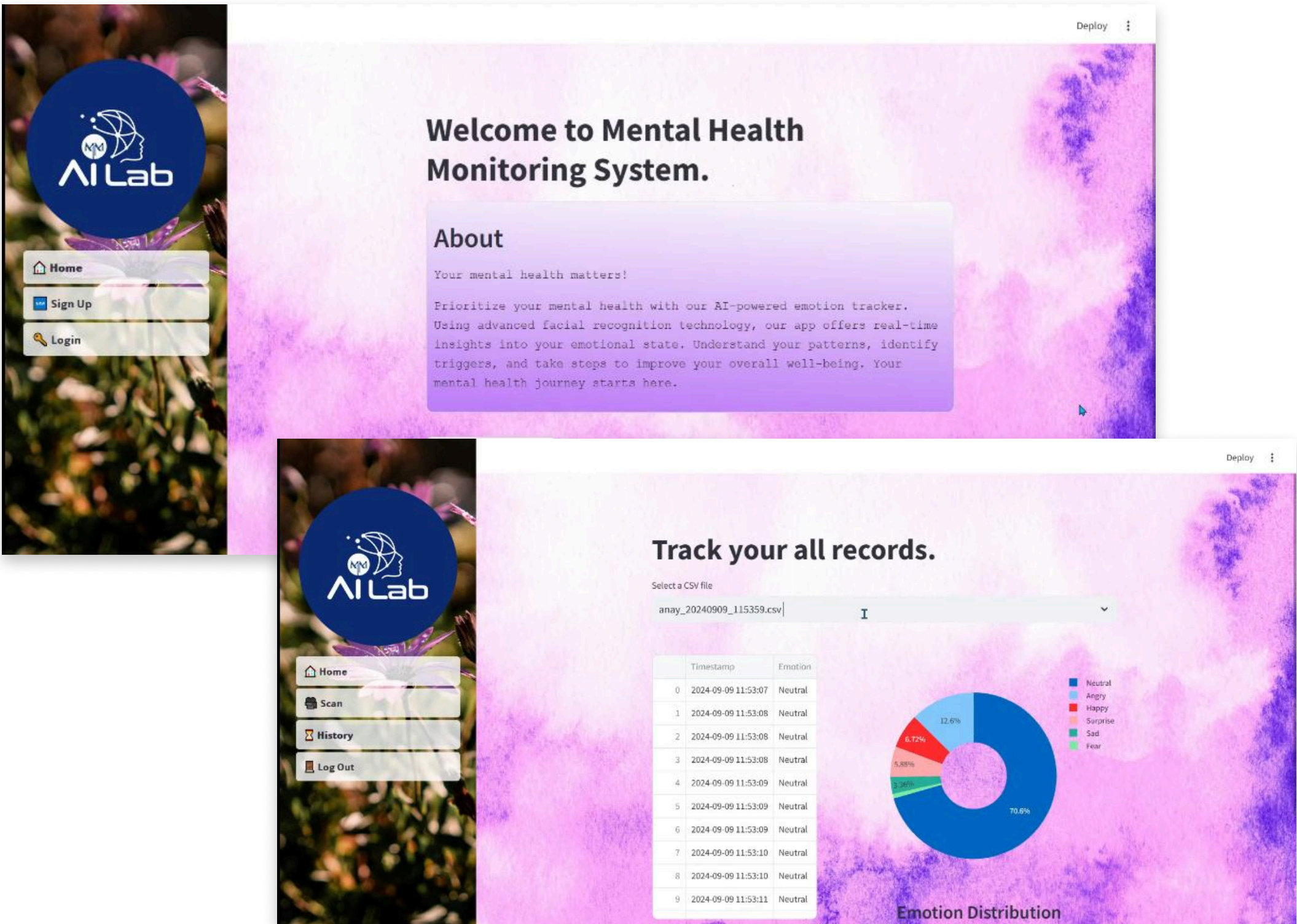
It offers individualized feedback and resources, enhancing individual well-being through insights into emotions and behavior patterns.

Improved Accessibility to Care:

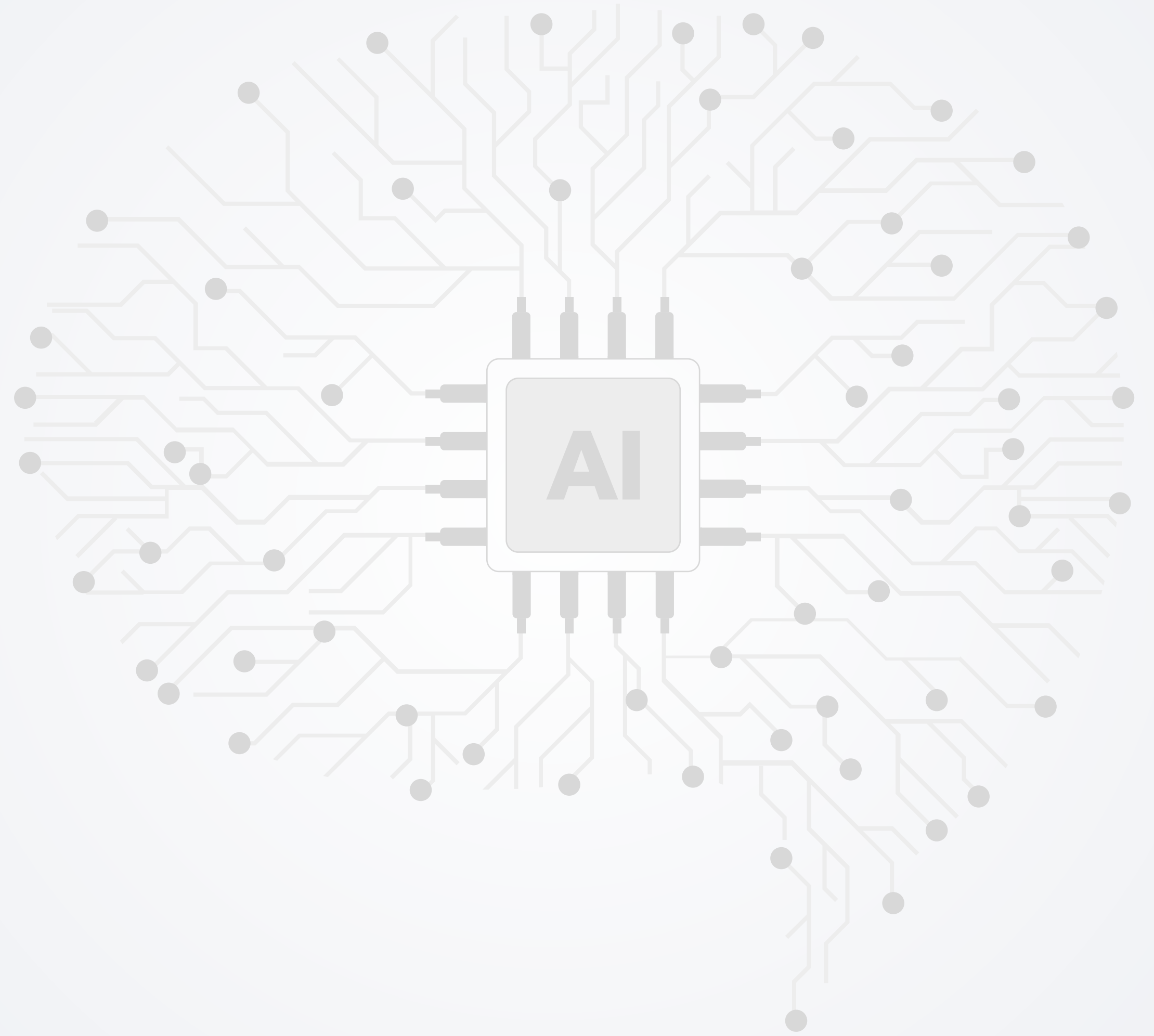
Bridges the gap in mental health services by providing remote, real-time support for users in diverse settings.

Enhanced Emotional Awareness:

This feature helps users to understand and manage emotions effectively, fostering self-awareness and resilience in daily life.



**Explore
endless
possibilities...**



Power your business with AI today



Marketing & Sales

- Sales and traffic forecasting
- Predictive sales/lead scoring
- Pricing optimization
- Sales and marketing content personalization
- Media budget optimization
- Recommendation engine



Operations

- Store-shelf optimization
- Inventory optimization
- Defect / anomaly detection
- Fraud detection
- Predictive maintenance
- Resource optimization
- Process automation
- Customer service
- Document / contract review



Human Resource

- Candidate screening and support
- Workforce analytics
- Churn prediction
- Performance management
- Workplace safety
- Onboarding, training and development





Engage with Matrix Media's AI-Lab

For innovative AI/ML solutions

 India | Singapore | United States

 www.matrixnmedia.com

 +91 87778 31495

 hello@matrixnmedia.com