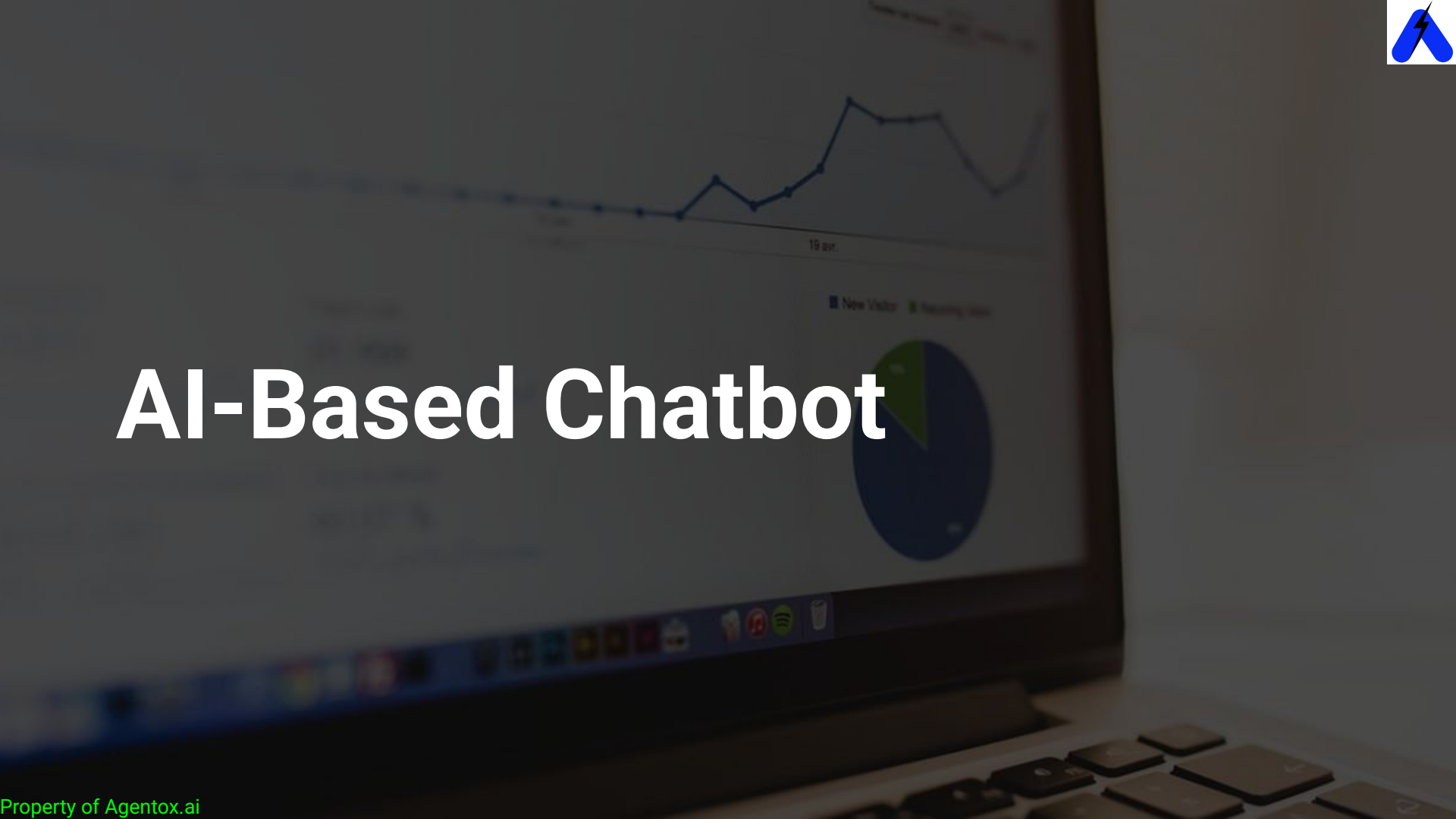
Agentox AI

Where repetition ends, automation begins.



AI-Based Chatbot

Case Study

Project: AI-Powered Chatbot Development

Client: U.A.E based

Duration: 4 months

Sector: AI & Machine Learning

Team: Lead Developer, Java Developer, Content Writer

Tech: Python, Java, TensorFlow, Keras, NLTK, BigDL.

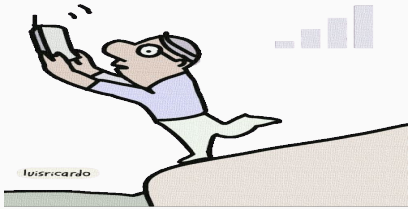
Developed an advanced, ethical, and engaging AI-powered chatbot capable of extensive open-domain interactions, significantly enhancing client customer service without requiring internet connectivity.

Challenge

Handling open-domain conversations effectively.

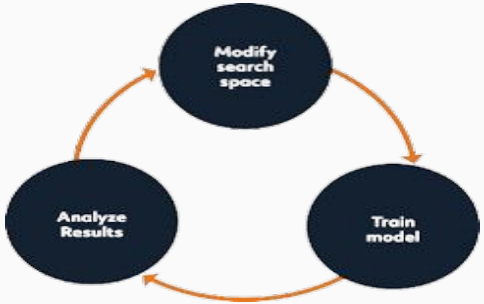
Ensuring ethical and engaging interactions.

Achieving high performance without internet connectivity.



Solution

Neural Machine Translation (NMT) for language processing.



Iterative model training and refinement.

Extensive corpus data curation from open-source platforms.

Outcome & Impact

Delivered a highly interactive, responsive, and ethical AI chatbot.

Established a new standard in conversational AI ethical interaction.

Enhanced client customer engagement significantly.

AI-Based Fake News Detector

Case Study

Project: AI Fake News Detector

Sector: Journalism, AI & ML

Duration: 6 months

Team: Lead AI Engineer, Data Scientist, Backend and Frontend Developers, ML Engineer

Tech: Python, TensorFlow, Keras, NLP libraries, GAN models

Implemented a sophisticated real-time detection system using NLP and GAN technology to effectively differentiate between authentic and fake news, bolstering media credibility and public trust.

Challenge

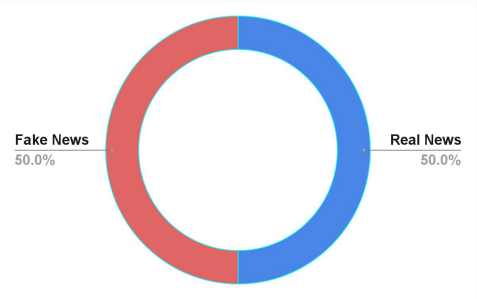
Accurate differentiation between fake and real news.

Real-time analysis capabilities.

Handling diverse misinformation tactics.

Solution

Balanced and extensive dataset collection.



Real-time integration with credible news sources.

NLP and GAN-based model deployment.

Outcome & Impact

Improved journalistic accuracy and credibility.

Real-time misinformation mitigation.

Strengthened public trust in digital news.

AI Chess Engine

Case Study

Project: AI Chess Engine Development

Sector: AI, ML, Game Development

Duration: 1 Year

Team: Lead AI Engineer, Python & AI Developers, and C++ Developers.

Tech: Python, C++, PyTorch, NumPy, and reinforcement learning algorithms.

Created a cutting-edge AI chess engine integrating reinforcement learning and neural network strategies, successfully surpassing traditional chess software in strategic depth and performance.

Challenge

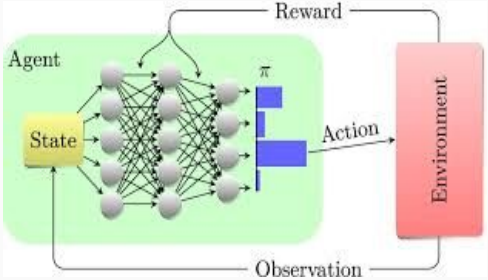
Limited initial chess expertise.

Strategic depth matching top chess engines.

High-speed decision-making requirements.

Solution

Reinforcement learning-based neural networks.

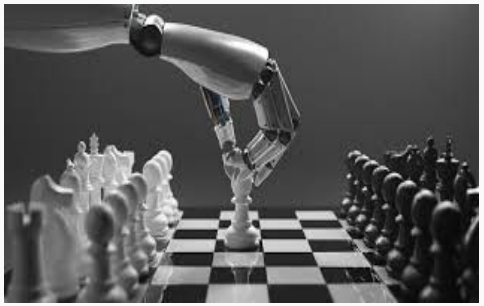


Iterative learning from historical game data.

High-speed C++ chess engine backend.

Outcome & Impact

Achieved competitive results against Stockfish.



Set new standards for AI chess engines.

Enhanced strategic gameplay capability.

Energy Monitoring System

Case Study

Project: Energy Monitoring System

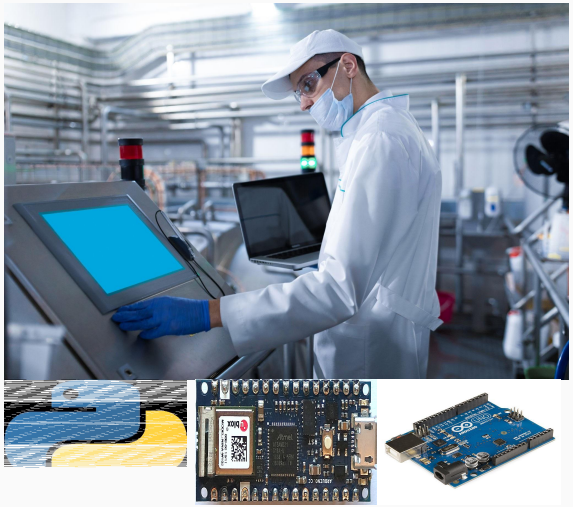
Sector: AI, IoT, Sustainability

Duration: 18 months

Team: Lead Systems Engineer, AI & ML Developers, Hardware & Software Developers.

Tech: IoT hardware, Raspberry Pi, Arduino, Python, ML algorithms.

Designed and deployed a robust AI-driven IoT energy monitoring solution, providing homeowners real-time analytics and predictive insights to significantly improve household energy efficiency.



Challenge

Accurate sensor data collection and integration.

User-friendly and actionable insights.

Real-time predictive analysis.

Solution

Integrated IoT sensors with microcontrollers.

User-centric dashboard with actionable insights.

Developed AI models for predictive analytics.

Outcome & Impact

Enhanced sustainable living practices.

Enabled predictive maintenance capabilities.

Reduced household energy consumption.

Idlytics - e-KYC Digital On-Boarding

Case Study

Project: Idlytics e-KYC Solution

Sector: FinTech, AI & ML

Duration: 2 years

Team: Lead AI Engineer, ML Specialists, Software Developers, and UI/UX Designers.

Tech: Python, PyTorch, OpenCV, Flask, ReactJS, GANs, OCR.

Delivered a comprehensive digital onboarding solution utilizing advanced AI models for identity verification, dramatically enhancing security, compliance, and user convenience in financial services.

Challenge

Complex identity verification methods.

Ensuring a seamless user experience.

Counteracting spoofing and fraud attempts.

Solution

GAN-based document authenticity verification.

OCR for accurate textual data extraction.

Face recognition and spoof detection neural models.

Outcome & Impact

Enhanced onboarding speed and security.

Improved fraud detection significantly.

Enhanced customer convenience and compliance.

Retailytics - AI Retail Solution

Case Study

Project: Retailytics AI Platform

Sector: Retail, AI & ML

Duration: 18 months

Team: Lead AI Engineer, ML Specialists, Software Developers, Data Analysts.

Tech: Python, OpenCV, TensorFlow, Keras, CNN, YOLO.

Revolutionized retail management through an AI-powered analytics system leveraging computer vision to improve customer experience, optimize store operations, and effectively manage security.

Challenge

Accurate customer behavior analysis.

Real-time actionable insights.

Efficient stock and theft management.

Solution

Computer vision algorithms (CNN, YOLO).

Real-time analytics dashboard.

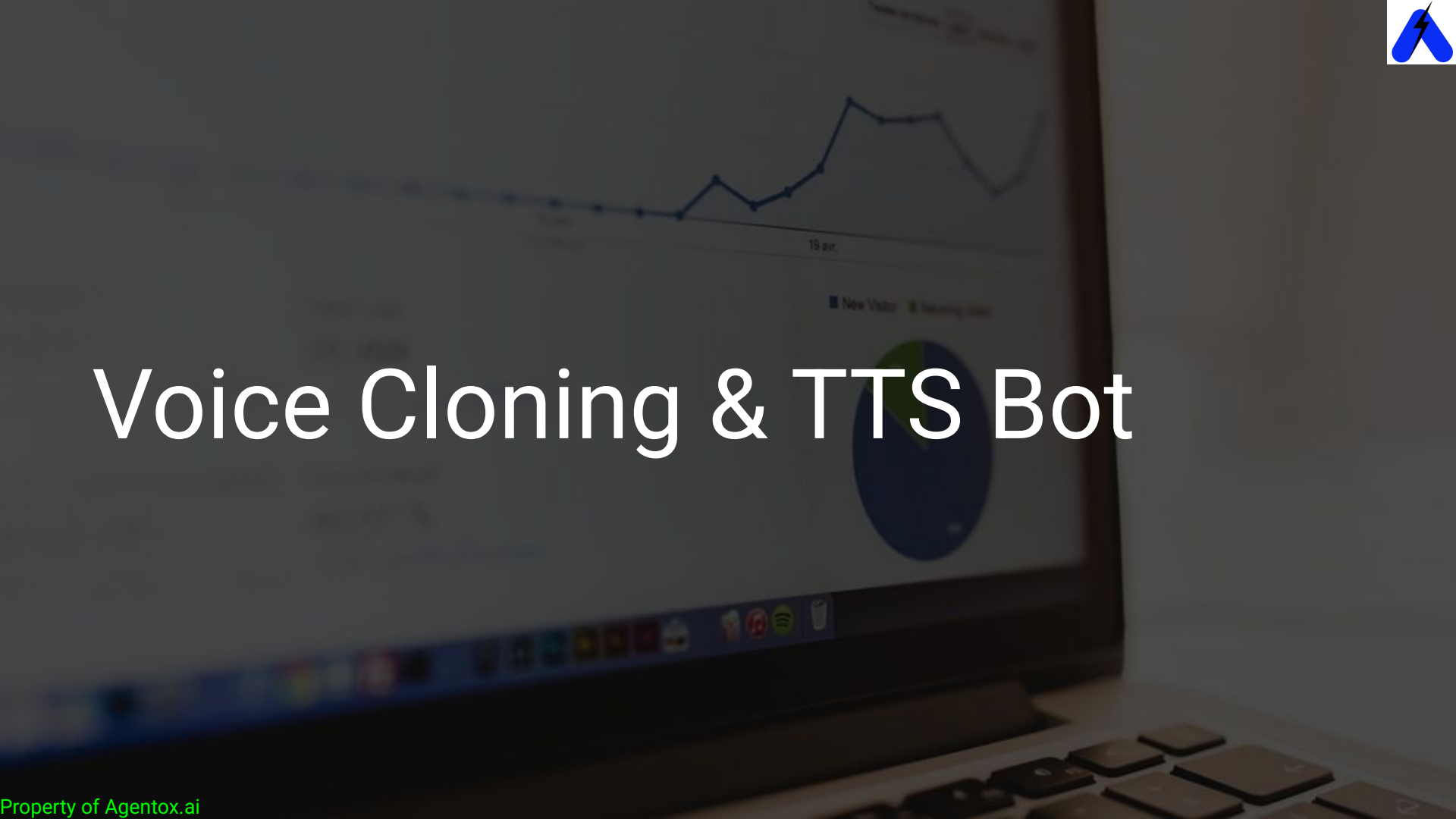
Smart checkout and anomaly detection.

Outcome & Impact

Improved operational efficiency.

Reduced wait times and theft incidents.

Enhanced customer shopping experience.



Voice Cloning & TTS Bot

Case Study

Project: Voice Cloning and TTS Bot

Sector: AI & ML, Telecommunications

Team: Lead AI Engineer, ML Engineers, Data Scientists, Software Developers

Tech: Python, PyTorch, Tacotron-2, WaveGlow, Docker.

Developed an innovative voice synthesis platform that generates highly realistic voices using minimal input data, significantly improving accessibility and reducing audio production costs.

Challenge

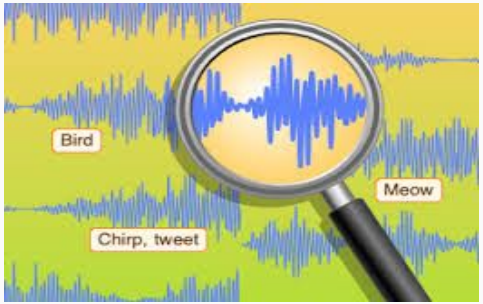
Minimal voice input data.

Realistic pronunciation and accents.

High-quality voice synthesis.

Solution

Tacotron-2 model for voice synthesis.



WaveGlow vocoder for enhanced audio quality.

Efficient audio processing and refinement.

Outcome & Impact

Improved accessibility in various applications.

Significantly reduced audio production costs.

Realistic and high-quality synthesized voices.

Fabrica-AI Apparel Design

Case Study

Project: Fibrica-AI Generative Fashion Platform

Sector: Fashion Tech, AI & ML

Duration: 1 year

Team: AI Developers, Fashion Designers, Software & Data Analysts

Tech: Python**,** GANs, deep learning, trend analytics, and UI/UX design.

Introduced an advanced generative AI design platform tailored to fashion industry requirements, greatly reducing the design development cycle while enhancing creativity and market adaptability.

Challenge

High-quality and creative design outputs.

Effective user refinement capabilities.

Dynamic adaptation to fashion trends.

Solution

Custom GAN-based generative AI models.

Integration of real-time fashion trends.

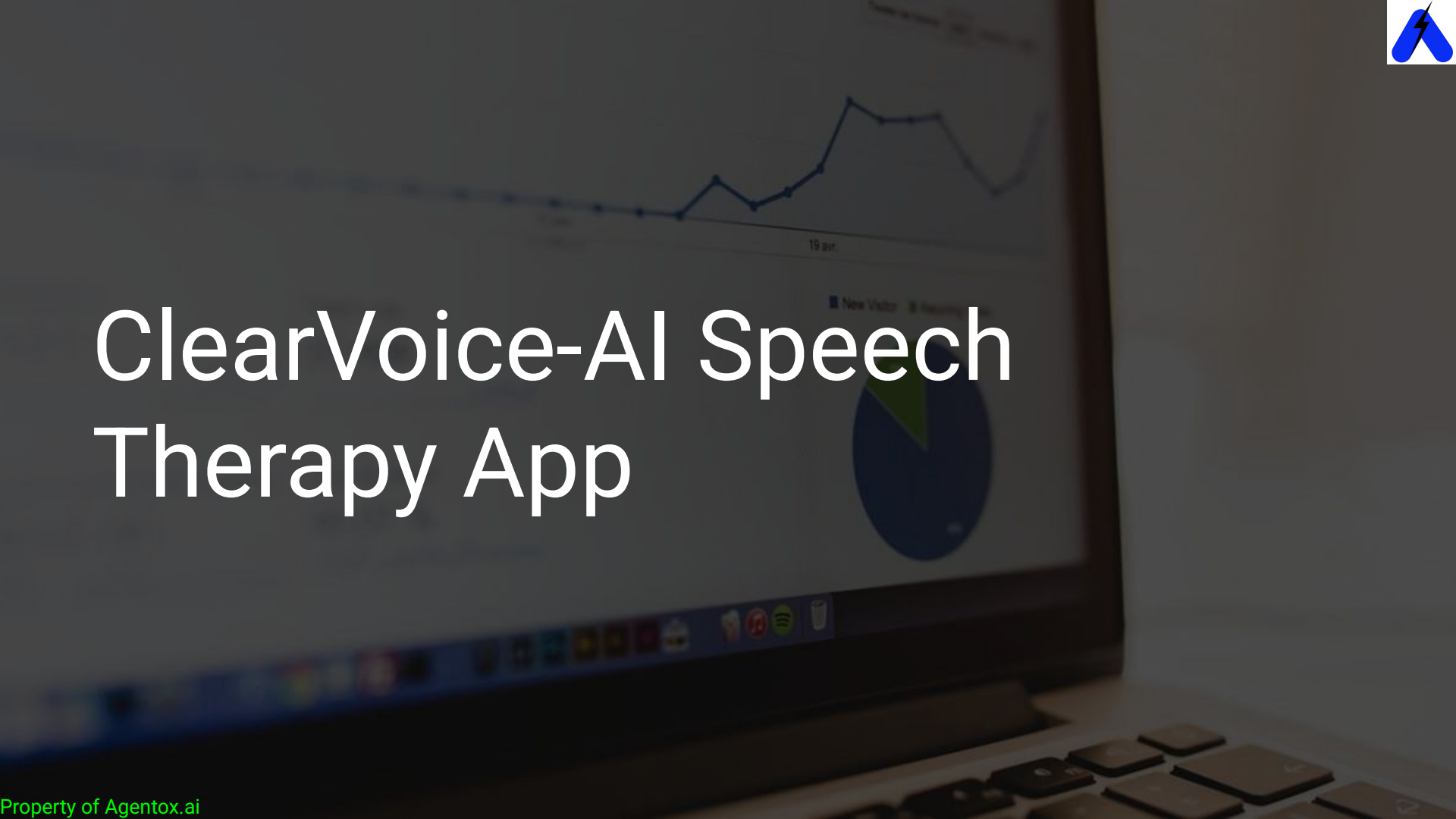
User-friendly design refinement tools.

Outcome & Impact

Reduced design cycle times.

Increased adaptability to market demands.

Enhanced creativity and customization.



ClearVoice-AI Speech Therapy App

Case Study

Project: ClearVoice-AI App for Speech Therapy

Sector: HealthTech, Mobile App, AI & ML

Duration: 2 years

Team: AI Engineers, Speech Therapists, Mobile Developers, UI/UX Designers

Tech: Python, Speech Recognition APIs, Mobile Development (iOS/Android), Data Encryption.

Created a personalized AI-powered mobile app for speech therapy, enabling real-time feedback and interactive sessions, significantly improving therapy accessibility and effectiveness for diverse user groups.

Challenge

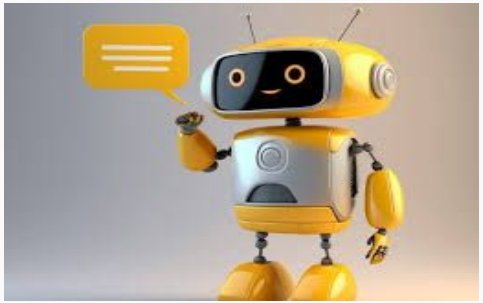
Real-time speech analysis.

Data privacy and security compliance

Personalized and interactive therapy sessions.

Solution

Custom mobile-optimized AI models.



Robust privacy and data security protocols.

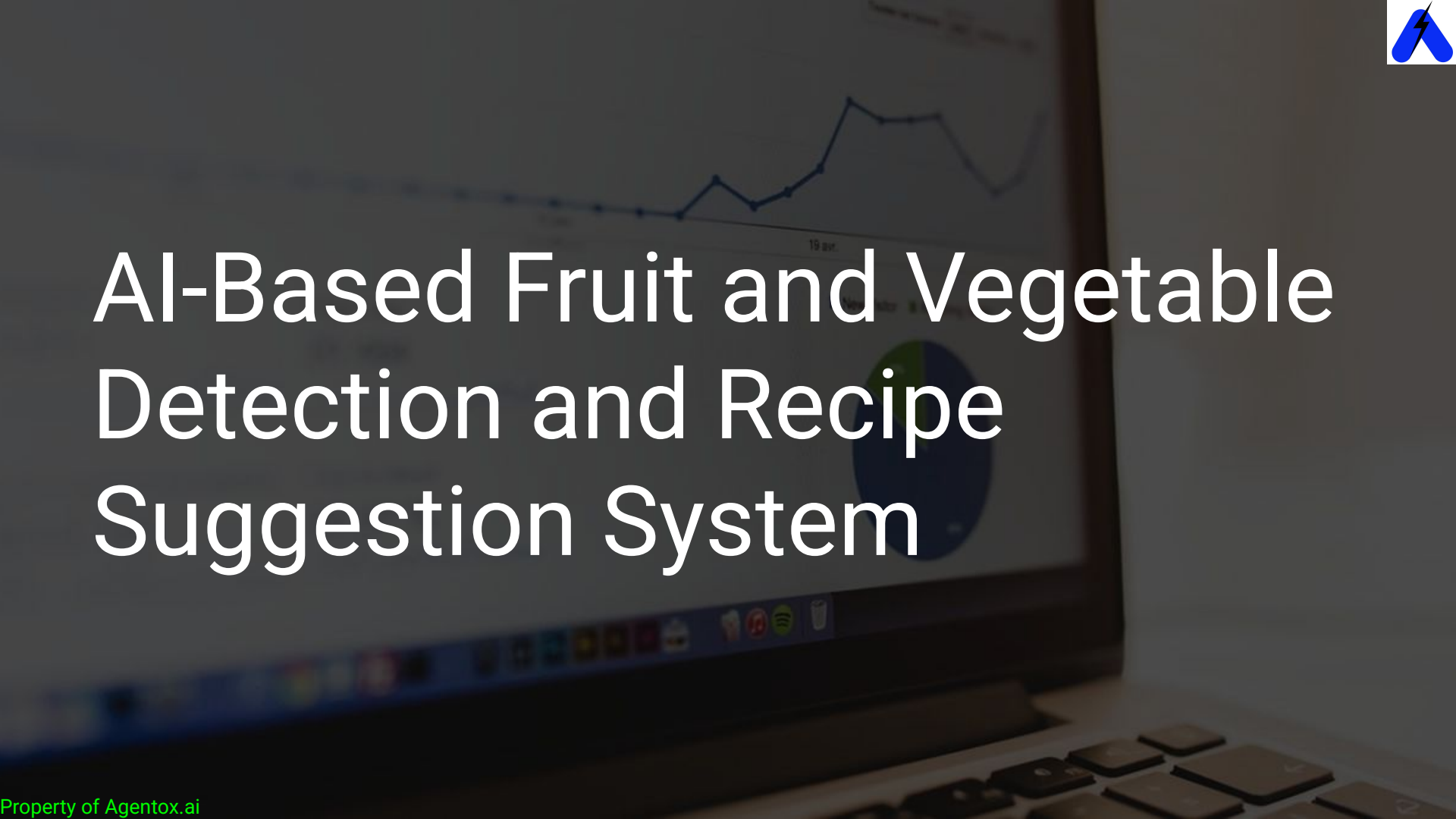
Real-time feedback through interactive AI guides.

Outcome & Impact

Enhanced accessibility to therapy.

Positive user engagement and satisfaction.

Demonstrated improvement in speech capabilities.



AI-Based Fruit and Vegetable Detection and Recipe Suggestion System

Case Study

AI-Based Fruit and Vegetable Detection and Recipe Suggestion System

Sector: Artificial Intelligence, Machine Learning

Team: AI Lead Engineer Data Annotators and Collectors Machine Learning Engineers

Tech: Python, YOLO, Image Labeling Tools, Recipe APIs, Mobile/Web Interface

Developed an AI-based early disease detection system for potato crops, utilizing advanced convolutional neural networks to enhance agricultural productivity and minimize crop losses.

Challenge

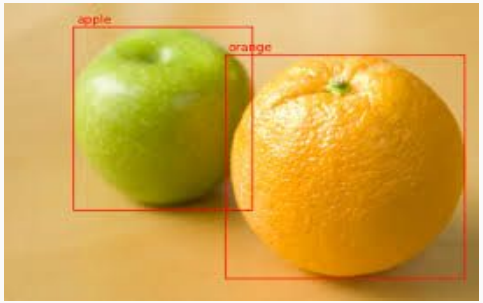
Accurate multi-class detection (120 classes).

Quantity estimation accuracy.

Real-time recipe suggestions.

Solution

Developed quantity estimation algorithms.



Dynamic recipe suggestion engine integration.

YOLO model trained on custom datasets.

Outcome & Impact

High detection accuracy (94%+).

Enhanced meal planning efficiency.

Reduced food waste and increased culinary innovation.

AI-Powered Video Analytics

Case Study

Project: AI-powered Video Analytics

Duration: 6 month

Team: AI Engineers, UI/UX Designers

Tech: Python, YOLO, object detection, FastAPI, Mobile/web interface, Django

Established an AI-driven surveillance and analytics system for university corridors, providing critical real-time security monitoring, people counting, fall detection, and crowd management analytics.

Challenges

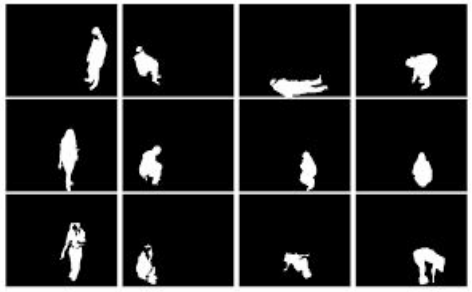
Reliable detection of falls and abnormal behaviors.

Comprehensive crowd analytics to manage high-traffic periods effectively.

Accurate real-time people detection and counting.

Solutions

Employed YOLO-based object detection and tracking.



Developed a detailed analytics dashboard for real-time monitoring insights.

Implemented advanced posture analysis algorithms for fall detection.

Outcome & Impact

Enhanced safety and security within university corridors.

Optimized corridor usage and crowd management through actionable analytics.

Improved emergency response through real-time incident alerts.

AI-Powered Meditation and Screening App

Case Study

Project Name: ReAlign App with Reva

Duration: 3 months

Team: AI Specialists, Psychologists, Software Developers, Biometric Analysts

Tech Stack: Python, TensorFlow, NLP Libraries, React Native, Node.js, Blockchain (Ethereum), HealthKit/Google Fit

ReAlign with Reva is an AI-driven emotional wellness app using Large Language Models (LLM) to provide personalized emotional support through adaptive programming, emotional tagging, and biometric analysis, enhancing user emotional health and resilience.

Challenges

Accurate real-time emotional tagging.

Secure and compliant data handling.

Dynamic personalization with LLMs.

Solutions

Advanced NLP and LLM emotional tagging.

Blockchain-backed secure data management.

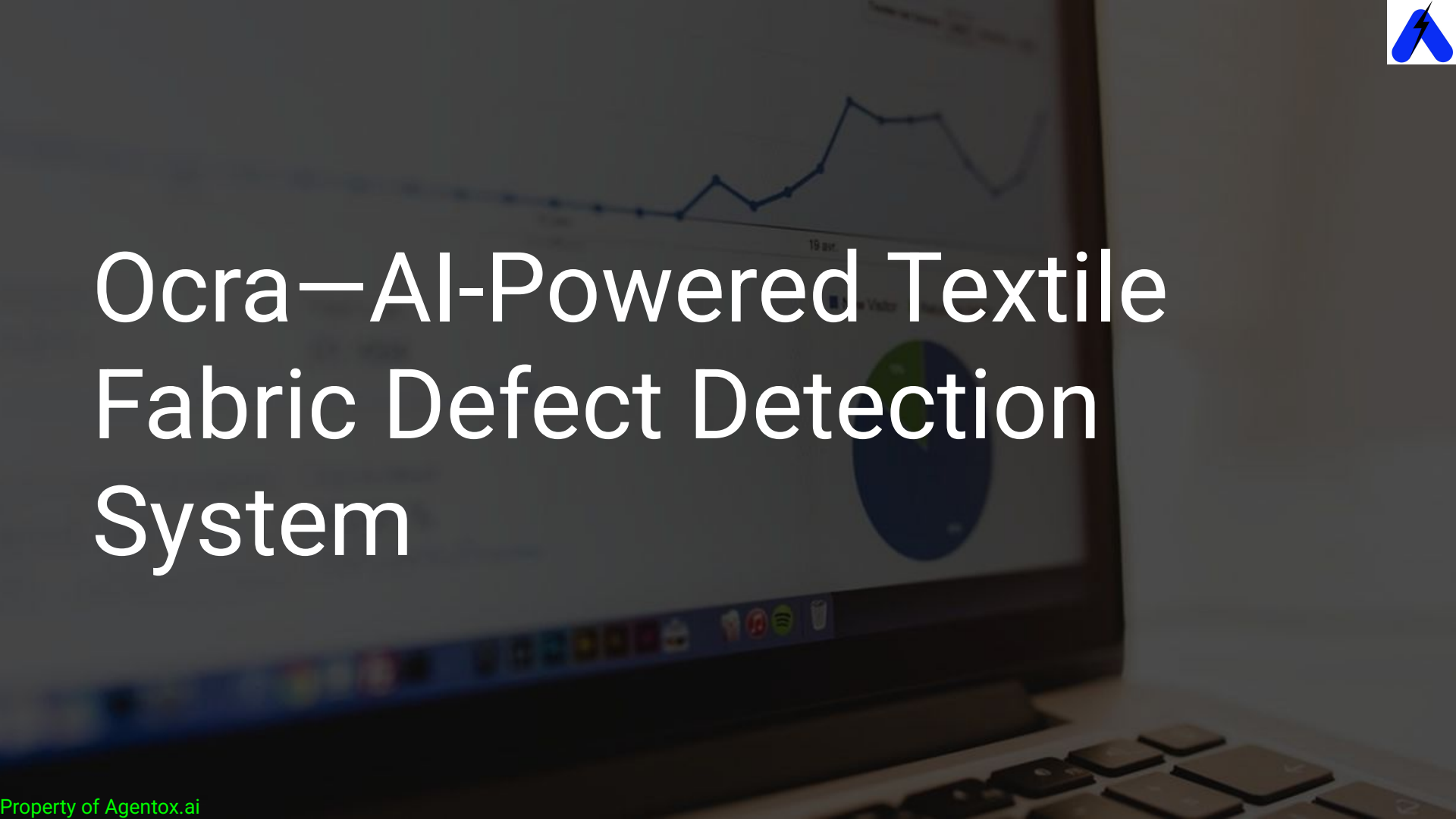
Real-time biometric data integration.

Outcome & Impact

Increased user engagement.

Improved trust through transparent security.

Enhanced emotional resilience.



Ocra—AI-Powered Textile Fabric Defect Detection System

Case Study

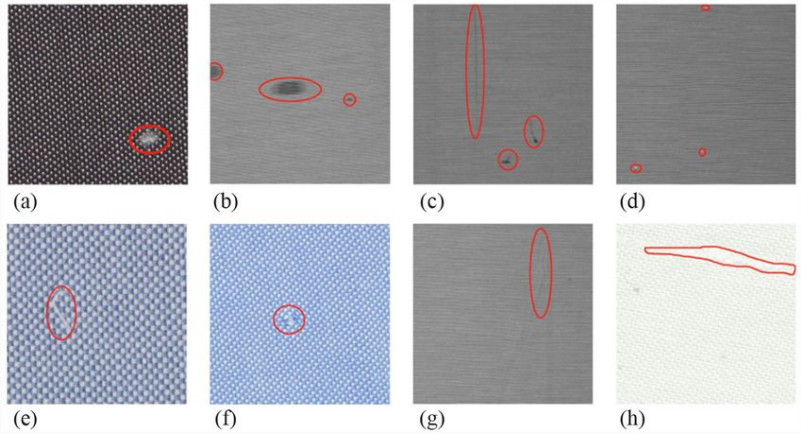
Project Name: Ocra—AI-Powered Textile Fabric Defect Detection System

Duration: 3 months

Team: Lead AI Engineer, Computer Vision Engineer, Data Annotator, QA Engineer

Tech Stack: Python, TensorFlow, PyTorch, OpenCV, U-Net, Mask R-CNN, LLM, Edge Deployment

Ocra is an AI-driven textile inspection system that detects, segments, and tags fabric defects in real-time, improving quality control, reducing wastage, and enhancing production efficiency.



Challenges

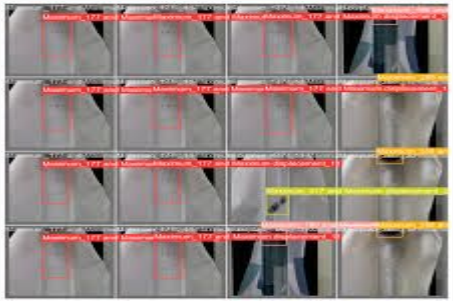
Capturing high-resolution fabric images under varying lighting and motion.

Detecting diverse defects with pixel-level segmentation.

Automatic defect naming and classification using LLMs.

Solutions

Preprocessing pipeline for fabric alignment, noise reduction, and lighting normalization.

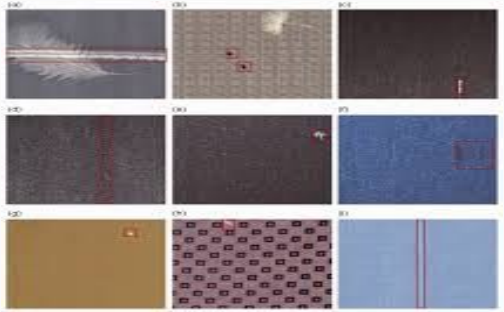


Deep learning segmentation (U-Net / Mask R-CNN) for precise defect localization.

LLM-based defect tagging for naming, severity categorization, and actionable insights.

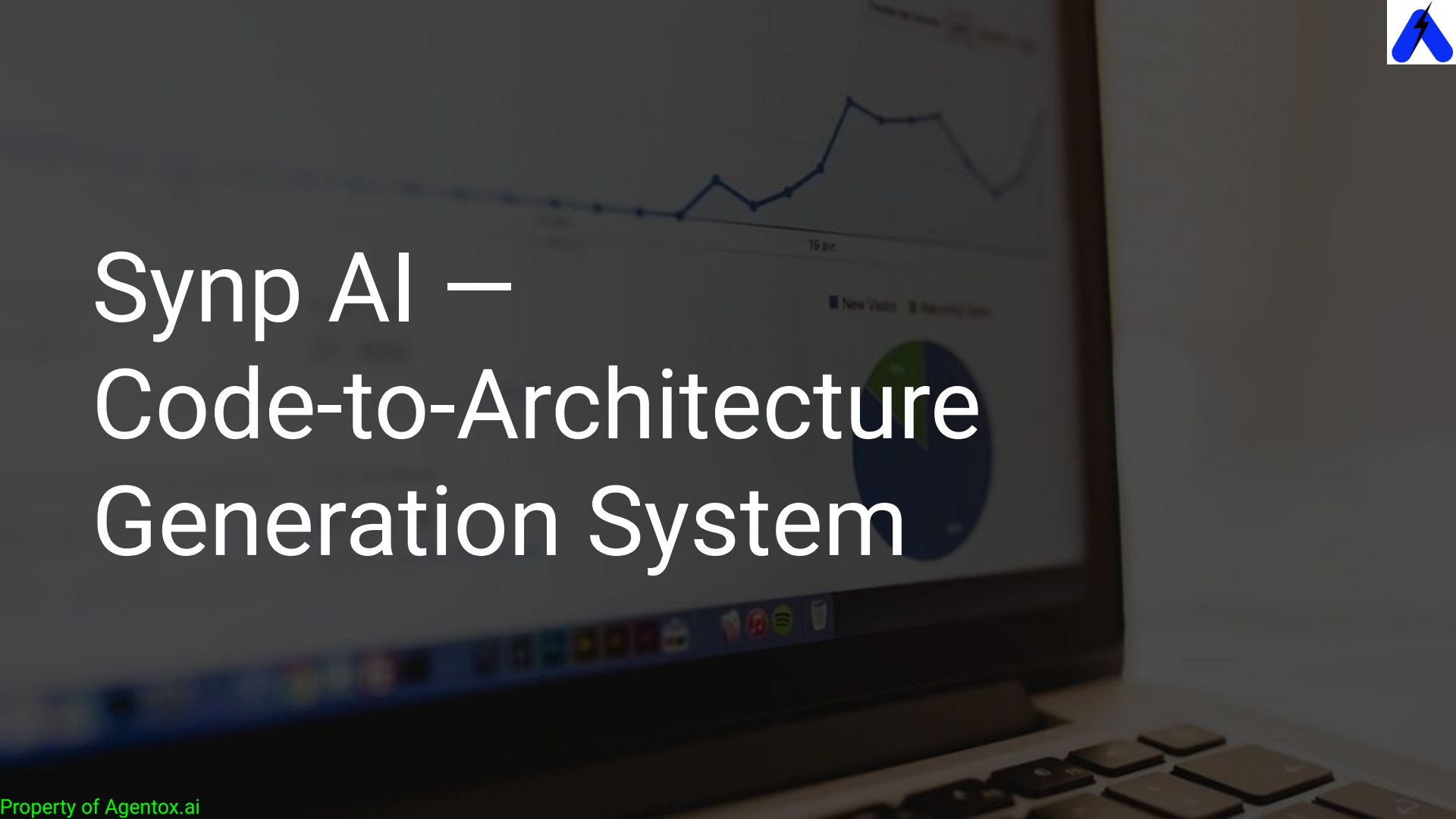
Outcome & Impact

Real-time defect detection and segmentation on production fabric.



Accurate LLM-based defect labeling, reducing manual inspection errors.

Improved production quality, reduced wastage, and visual defect maps for operators.



Synp AI — Code-to-Architecture Generation System

Case Study

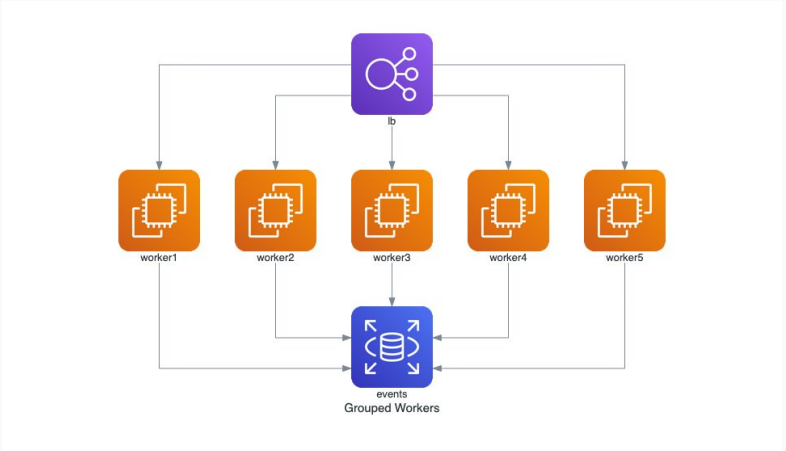
Project Name: Synp AI — Code-to-Architecture Generation System

Duration: 2 months

Team: Lead AI Engineer, Backend Developer, System Analyst

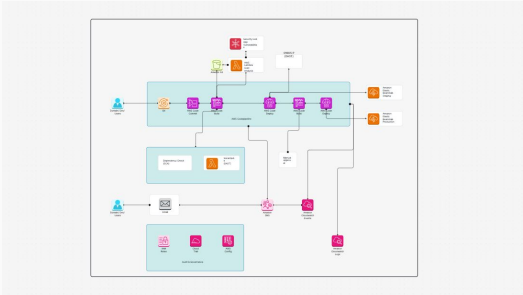
Tech Stack: Python, OpenAI API, LangChain, AST Parsing, NLP, UML Generation, Mermaid/PlantUML, API Development

Synp AI is an AI-powered tool that converts source code into structured system architecture diagrams. It enables developers to visualize codebases instantly, improving documentation, onboarding, and architecture understanding.



Challenges

Analyzing diverse codebases across languages (Python, JavaScript, Java, Node.js).

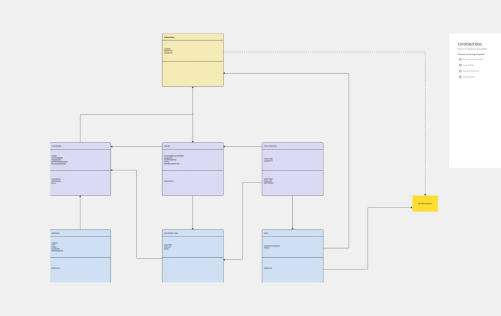


Mapping components, services, APIs, and data flows into accurate architectures.

Generating human-readable diagrams even from incomplete or unstructured code.

Solutions

Code parsing & tokenization pipeline for structured LLM analysis.

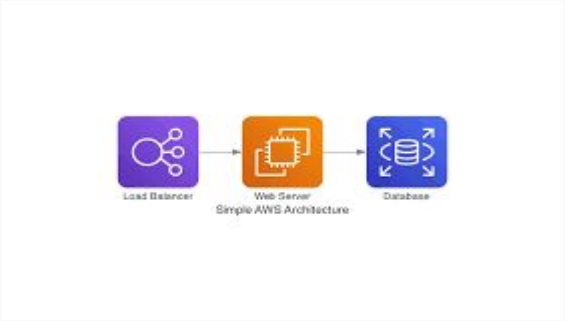


LLM-based reasoning to extract modules, dependencies, flows, and architecture patterns.

Automatic diagram generation in UML, flowcharts, and system maps with multi-format output.

Outcome & Impact

Instant architecture diagrams from raw code, reducing manual effort.



Faster onboarding and improved system understanding for engineers.

Standardized documentation, better decision-making, and higher productivity.

RagMetric — AI-Powered LLM Evaluation & Quality Assurance Tool

Case Study

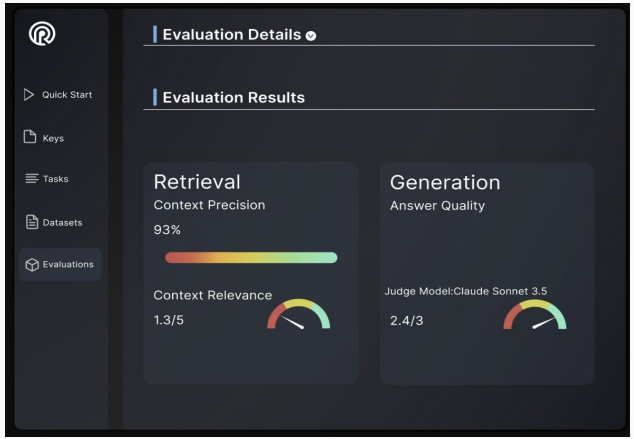
Project Name: RagMetric — AI-Powered LLM Evaluation & Quality Assurance Tool

Duration: 2 months

Team: Lead AI Engineer, Backend Engineer, QA Specialist

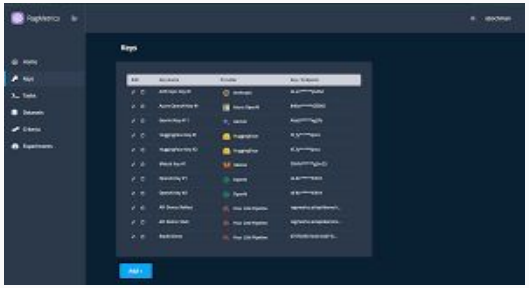
Tech Stack: Python, OpenAI API, LangChain, LLM Scoring, RAG Testing, Prompt Engineering, Backend APIs, Analytics Dashboards

RagMetric is an AI-driven evaluation platform that measures LLM and RAG agent performance, detects hallucinations, and provides automated + human-in-the-loop QA workflows to ensure accurate, reliable, and safe GenAI deployments.



Challenges

Evaluating LLM/RAG responses for accuracy, relevance, and factual grounding.



Detecting hallucinations while combining automation with human oversight.

Providing scalable analytics and seamless integration with enterprise GenAI pipelines.

Solutions

LLM evaluation engine with custom metrics for accuracy, grounding, hallucinations, and completeness.

Human-in-the-loop review interface for rating, feedback, and hybrid scoring.

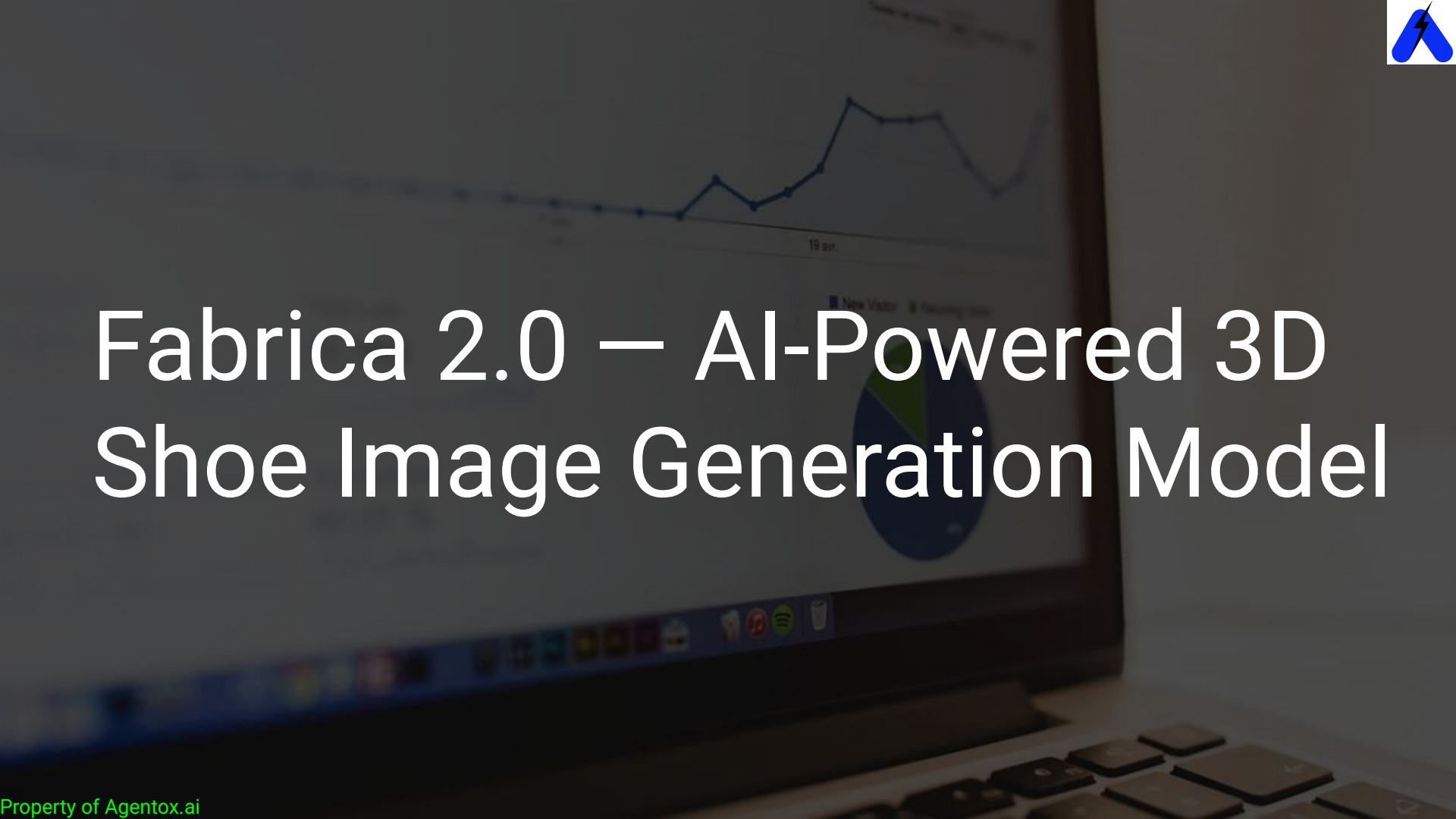
Analytics dashboard with metrics, benchmarks, and CICD-ready API integration.

Outcome & Impact

Reliable and scalable GenAI QA with accurate hallucination detection.

Continuous LLM performance improvement through feedback loops.

Faster deployment cycles and centralized dashboards for engineering and product teams.



Fabrica 2.0 — AI-Powered 3D Shoe Image Generation Model

Case Study

Project Name: Fabrica 2.0 — AI-Powered 3D Shoe Image Generation Model

Duration: 3 months

Team: Lead AI Engineer, ML Engineer, 3D Designer

Tech Stack: Python, PyTorch, 3D Generative Models, Text-to-3D AI, Rendering Pipelines, Prompt Engineering, UI/UX Dashboard, CAD Integration

Fabrica 2.0 is an AI-driven platform that generates realistic 3D shoe designs from textual prompts, enabling rapid prototyping, high-fidelity visualization, and seamless integration into footwear design workflows.

Challenges

Generating diverse 3D shoe designs from natural language prompts.

Maintaining realistic textures, proportions, and style fidelity.

Supporting multiple shoe types, materials, and rapid design iterations.

Solutions

Prompt-to-3D generation engine producing realistic meshes and textures.

Automated evaluation and iterative refinement for shape, realism, and style coherence.

Interactive dashboard for real-time prompt input, multiple variations, and 3D model downloads.

Outcome & Impact

High-quality 3D shoe designs automatically generated from prompts.

Faster prototyping and visualization, reducing design cycle times.

Streamlined design workflow and integration-ready 3D outputs for CAD and manufacturing.

LLMOpt — AI-Powered LLM Token Optimization Tool

Case Study

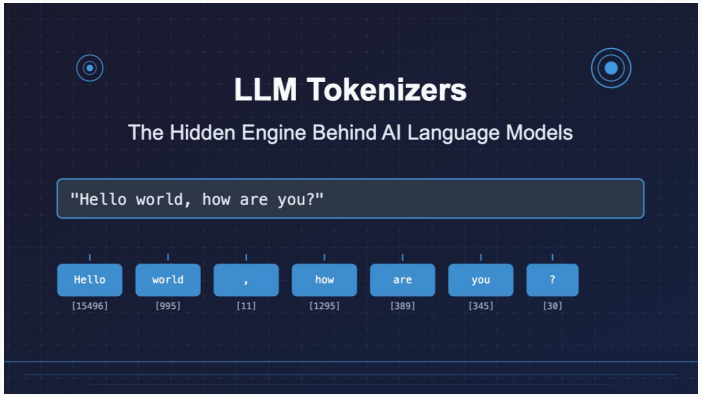
Project Name: LLMOpt—AI-Powered LLM Token Optimization Tool

Duration: 2 months

Team: Lead AI Engineer, NLP Engineer, Backend Engineer

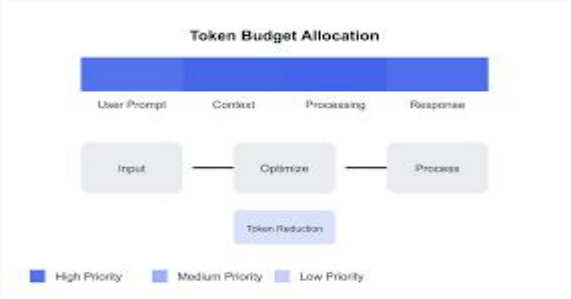
Tech Stack: Python, OpenAI API, LLM Prompt Engineering, Token Optimization Algorithms, Embedding Analysis, Analytics Dashboard, Backend API Development

LLMOpt is an AI-powered platform that optimizes token usage for LLMs, reducing costs and improving efficiency without compromising response quality, enabling scalable, high-performance LLM deployments.



Challenges

Minimizing token consumption while maintaining response quality and context integrity.

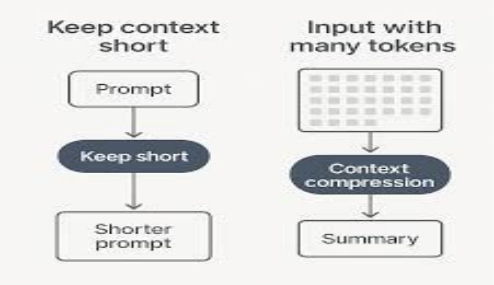


Providing automated suggestions for prompt optimization and workflow integration.

Tracking token usage, cost, and performance for actionable insights.

Solutions

Token optimization engine with prompt rewriting and context compression.



Analytics dashboard for real-time token usage, costs, and performance metrics.

APIs and workflow integration for seamless deployment and automated optimization suggestions.

Outcome & Impact

Significant reduction in token consumption without degrading LLM output quality.

Faster, cost-efficient LLM operations with automated optimization suggestions.

Scalable integration into client LLM workflows with real-time monitoring and improved ROI.