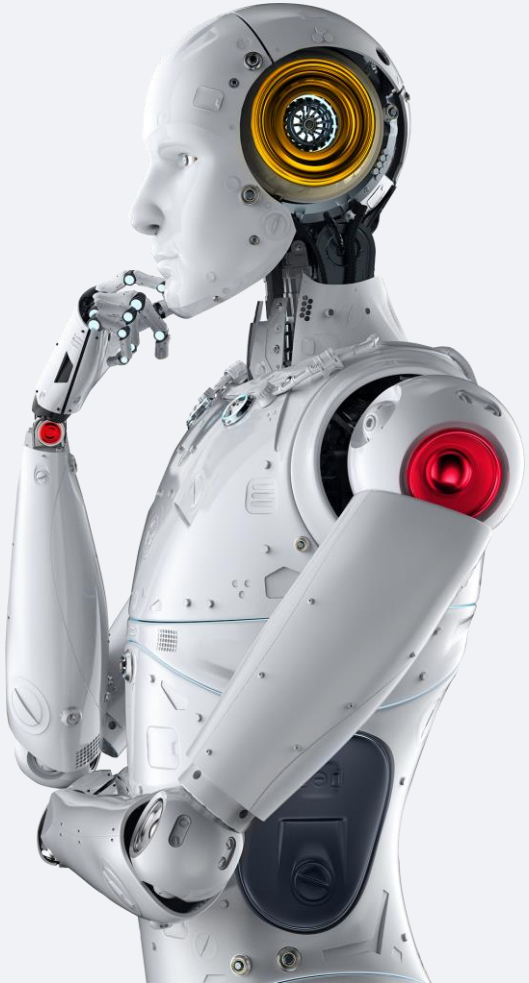
elinext

Company Profile

AI and ML Services



Elinext Company Overview

Since 1997

In custom software development

7

Development centers in Europe and Asia

700+

In-house employees 85% are software engineers

300+

Clients worldwide

Focus on specific domains:

- Web & Mobile Apps
- UI/UX Design
- CRM & Customer Engagement
- ERP & Asset Management
- IoT & Infrastructure Management
- Cloud Computing & SaaS Development
- Blockchain
- DevOps

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Tech Spotlight

Frameworks and libraries

- TensorFlow
- Keras
- PyTorch
- NumPy
- scikit-learn
- Pandas
- OpenCV
- OpenPose
- PyCaret

Languages

- Python
- Java
- Node.js
- C++
- Scala

Models and algorithms

- Faster R-CNN
- GAN
- Inception V3
- Isolation forest
- BERT
- GPT

Cloud

- Azure
- AWS
- GCP
- Amazon EC2
- Digital Ocean
- Amazon SageMaker

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Quality Certified

Ensured by Elinext Management System:

Certified Quality Management

Certified Information Security Management

Google Cloud Certified

AWS Certified

MS Azure Certified

Proven by dedicated external audits:

- Code Review
- Static Analysis
- Dynamic analysis
- QA and unit-tests
- Continuous Integration
- Rules and processes

Continuous competence development:

- Best-practice and knowledge sharing in onboarding process.
- Professional trainings, including external courses.
- Developer conferences and international hackathons

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AI and ML Clients

BROADCOM

Range of projects for telecommunications, namely real-time IT infrastructure monitoring software with AI-based prediction algorithms

Ongoing cooperation since 2002

Dedicated team of 70 developers and QA engineers

Agile-based SDLC

YOKOGAWA

A German biopharma software company, partnered with us to optimize code for predictive biomanufacturing solutions using Digital Twins. We enhanced code stability, increased processing speed, and optimized modules, improving their product's performance.

Three months project

3 developers, QA, Project Manager, Business Analyst, UI/UX designer

Time And Materials

CreditSpectrumCorp

We developed a web application for a New York credit rating agency to analyze and visualize healthcare claims data. Completed in four months, the platform features complex data processing, statistical analysis, and a user-friendly interface, allowing admins and users to manage data effectively and export results in multiple formats.

Several Months

3 developers, QA Engineer, Project Manager, Business Analyst, and UI/UX designer

Time and Materials

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Machine Learning

Predictive analytics	✚ Customer churn prediction	✚ Credit risk prediction	✚ Hyper-personalized recommendations
	✚ Demand forecasting and price prediction	✚ Financial parameters prediction (refinancing rate, stock returns, etc.)	
Intelligent automation	✚ Automated document processing	✚ Priority-based support ticket categorization	✚ Predictive maintenance
	✚ Logistics and route optimization	✚ Streamlined inventory management	
Anomaly detection	✚ Identity theft detection	✚ Fraud detection (credit card fraud, tax fraud, insurance fraud)	✚ Medical anomaly detection
	✚ Manufacturing defect detection	✚ Telco network performance monitoring and anomaly detection	

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Computer Vision

Object detection and recognition	Object detection, identification and tracking	Crowd counting	3D scene reconstruction
	Handwritten character recognition	Quality inspection and control	
Image and video processing	Image segmentation and feature extraction	NSFW (Not Safe For Work) detection	Motion detection and activity recognition
	Gesture recognition	Scene and context understanding	
Facial recognition	Face detection and recognition	Facial features, textures, and patterns analysis	Emotion analysis
	Biometrics-based authentication		

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Natural Language Processing

Sentiment analysis and opinion mining	+ Automatic speech recognition (ASR)	+ Polarity classification (positive, negative, neutral)	+ Product feedback and customer review analysis
	+ Social media monitoring	+ Emotion detection	
Chatbots and virtual assistants	+ Adaptive learning from every interaction	+ Replies based on user, session-, or domain-based context	+ Multichannel support
	+ Integration with third-party systems		
Large Language Models (LLMs)	+ Pre-trained LLM customization and fine-tuning	+ LLM integration and API development	+ Custom LLM-based app development
	+ LLm cost and performance optimization	+ Advanced prompt engineering techniques	

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AI-Tool For Monitoring Telecom Networks Worldwide

Elinext team helped pioneer a one-of-a-kind solution that pairs virtual and physical network switches in the same interface to allow end users to effectively maintain complex IT infrastructures.

Learn More ->

Features

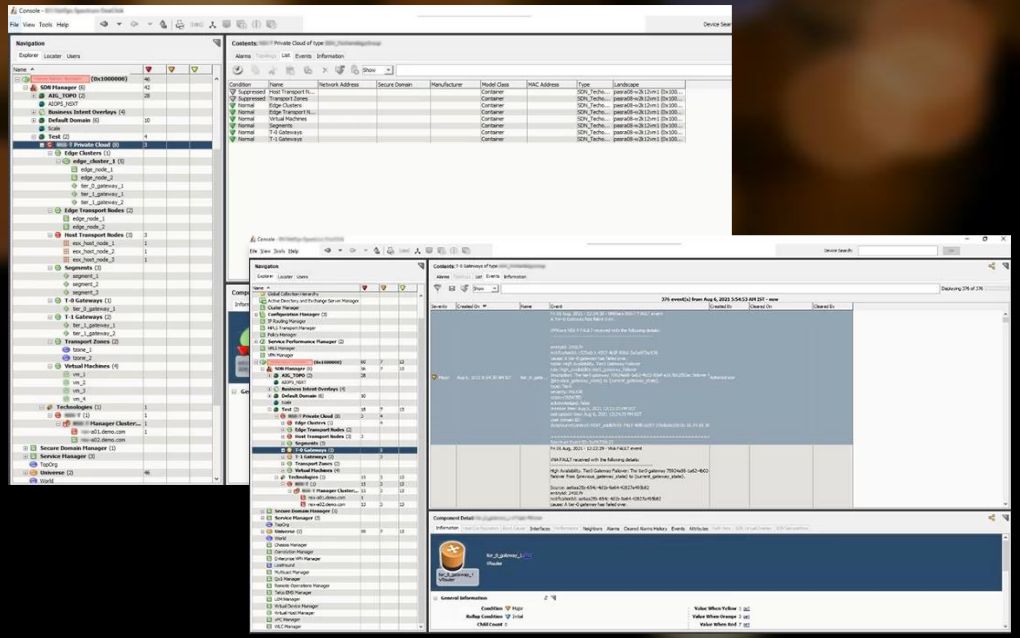
- Providing real-time information about IT infrastructure objects
- Collecting performance statistics about hardware

Technologies

- JAVA
- SPRING
- HIBERNATE
- REACT
- JMS
- PHP
- C/C++
- ORACLE
- MYSQL
- AJAX

CLIENT

A multinational telecom software and hardware provider



Code Optimization For A Biopharmaceutical Company

The client engaged two Elinext teams: one to tweak the code and accelerate PoC development and the other to research and optimize open-source modules for the modulation process.

Learn More ->

Features

- Optimizing the number of parameters in the original module from 30 to 5 for faster data processing
- Developing an AI algorithm to enable the system to send data to other modules and visualize it

Technologies

- DJANGO
- FASTAPI
- PYTHON
- MYSQL

CLIENT

A German provider of software solutions for the biopharma industry

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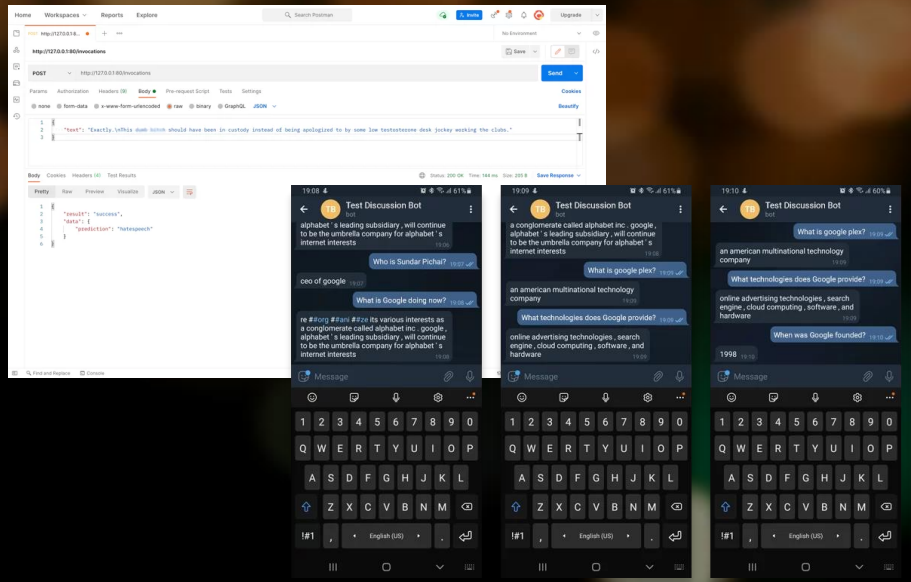
Hate Speech Detector And FAQ Chatbot

CLIENT

An ecommerce company

In just two weeks the Elinext team developed two apps: an AI-powered tool that detects hateful messages with 68% accuracy and a FAQ helper bot that quickly answers users queries. These tools resulted in significant time and cost savings for the client.
Learn More ->



Features

- Training ML model training with open-source AI
- Automated Docker deployment
- Training the bot on a knowledge base
- The ability for administrators to modify, enrich and replace the context

Technologies

- HATEXPLAIN DATASET
- GPT-2
- GITHUB
- AMAZON EC2
- BERT MODEL
- HTTP API
- TELEGRAM API

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Application For Sentiment Voice Analysis

The client engaged Elinext to build an emotion detection software that could allow operators to automatically detect the emotions of callers and act accordingly.

Learn More ->

Features

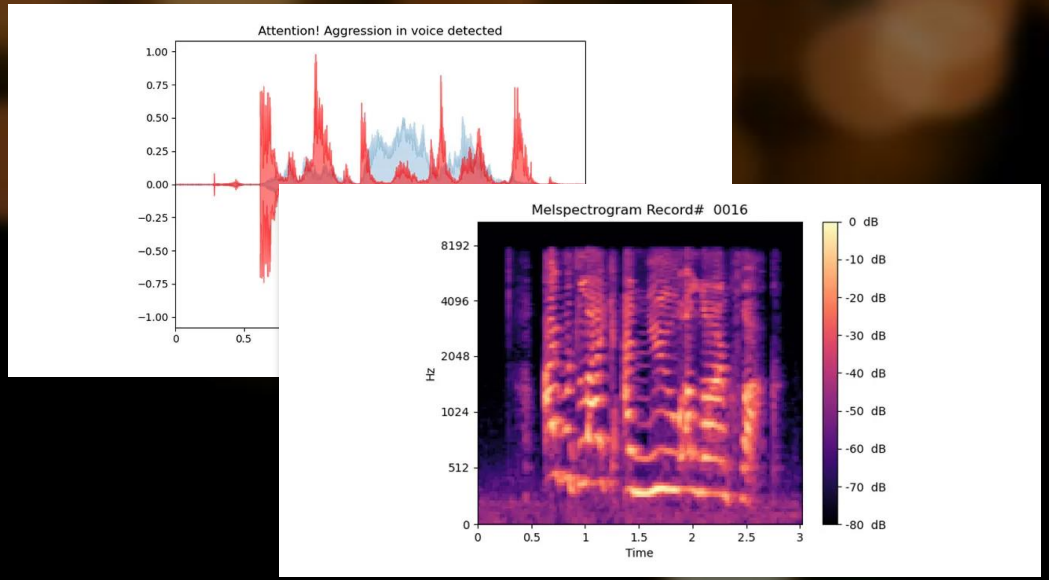
- Leveraging Crowd-Sourced Emotional Multimodal Actors Dataset (CREMA-D) for data training.
- Using LebROSA package for extraction of sound feature.
- Building neural network models based on Keras and Tensorflow.

Technologies

- JAVA
- RETROFIT
- PYTHON
- FLASK
- ANDROID SDK
- PYDUB
- MLP
- CNN

CLIENT

A UK-based call center



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Social Media Sentiment Analysis Software

The project is a sentiment analysis solution that quickly analyzes emotions in tweets about the elections, helping the agency get a better understanding of what forms a party's ranking.

Learn More ->

Features

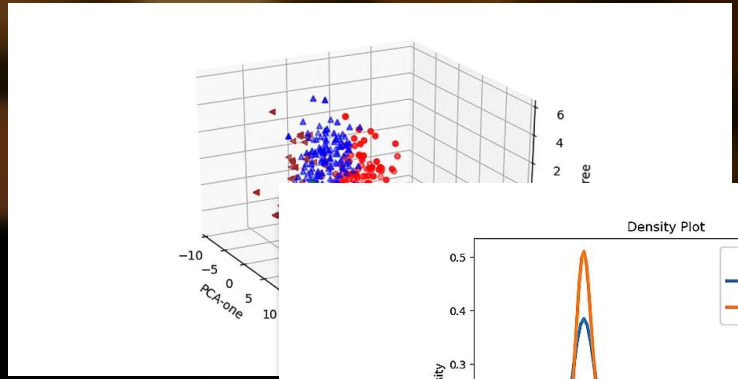
- Tweets extraction by keywords, time intervals, etc.
- Text cleaning and natural language processing
- Identification of the audience's positive or negative attitude
- Average sentiment scores calculation
- Data visualization

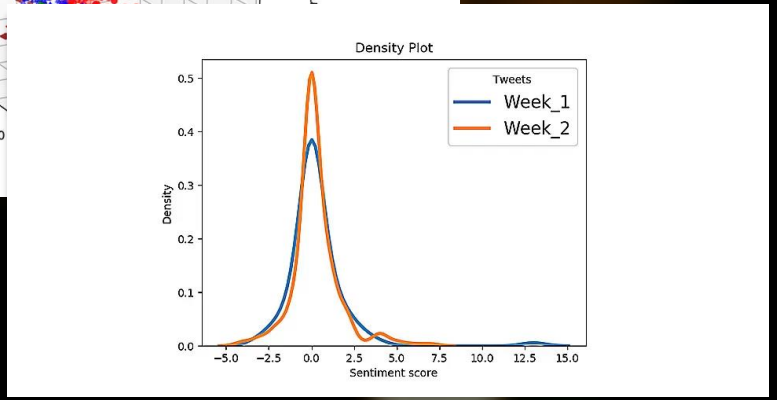
Technologies

- PYTHON
- KERAS
- PANDAS
- NUMPY
- TWEEPY
- JSON
- GENSIM
- MORFEUSZ
- SCIKIT-LEARN
- MATPLOTLIB

CLIENT

A Poland-based analytical agency





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Predictive Analytics Demand Forecasting

Elinext ML engineers built a robust ML algorithm for predicting retail demand. The algorithm's accuracy has put Elinext in top ten out of 5,500 participants in the well-known M5 Forecasting Accuracy competition.

Learn More ->

Features

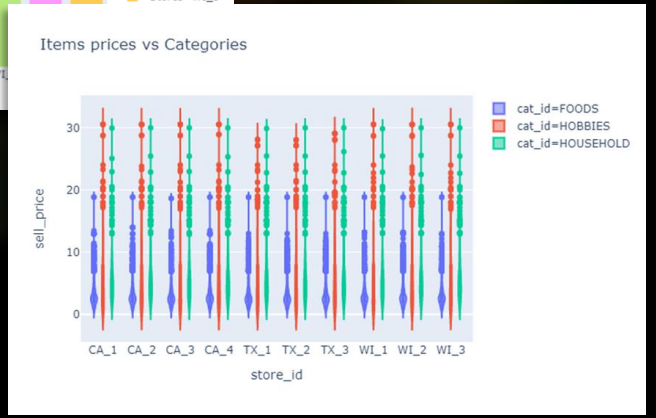
- Sourcing retail data and preparing the training dataset
- Analyzing approaches and selecting the best framework
- Building an ML model with almost 30 sets of features (lagged sales values, seasonal effects, price, and more)

Technologies

- LIGHTGBM
- ARIMA
- PYTHON

CLIENT

An in-house project



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Pneumonia Diagnosis Tool

The client engaged Elinext to enhance its platform with an ML-powered diagnostics tool that would analyze lung X-ray images and identify signs of pneumonia.

Learn More ->

Features

- Using InceptionV3 neural network
- Preparing the data training set (subsampling and narrowing down to relevant selection)
- Monitoring training metrics
- Manual and automated model testing
- Using binary identification

Technologies

- NUMPY
- PYTHON
- TENSORFLOW
- HTML5
- JAVASCRIPT
- OPENCV
- DOCKER
- KAGGLE

CLIENT

A healthcare platform provider

elinext

Animal Recognition Service

CLIENT

MVP

The client who owns extensive hunting areas engaged Elinext to develop a reliable solution for detecting and identifying animals in their video feeds.

Features

- Covering more than 400 human activities
- Data annotation tool to prepare training datasets
- Data model training and management

Technologies

- Pytorch
- Faster R-CNN
- ResNet-50-FPN backbone

elinext

Human Skeleton Detection

The Elinext team delivered an ML-powered solution for disease detection and diagnosis based on human body movement.

Features

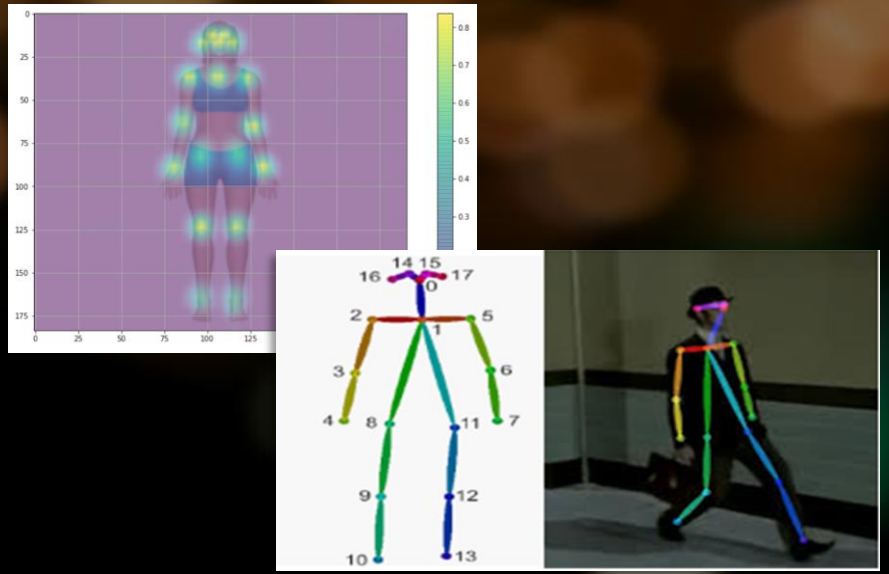
- Creating a video where a human is represented by their joints
- Joint detection and tracking
- Covering over 400 human activities

Technologies

- Tensorflow
- OpenCV
- OpenPose

CLIENT

A healthcare company



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Face Recognition Solutions

The roject involved creating a face recognition solution to accurately identify faces and give personal access into the building. Developed for the schools in Kazakhstan, the system leverages ML-powered face detection to allow access to the school territory.

Features

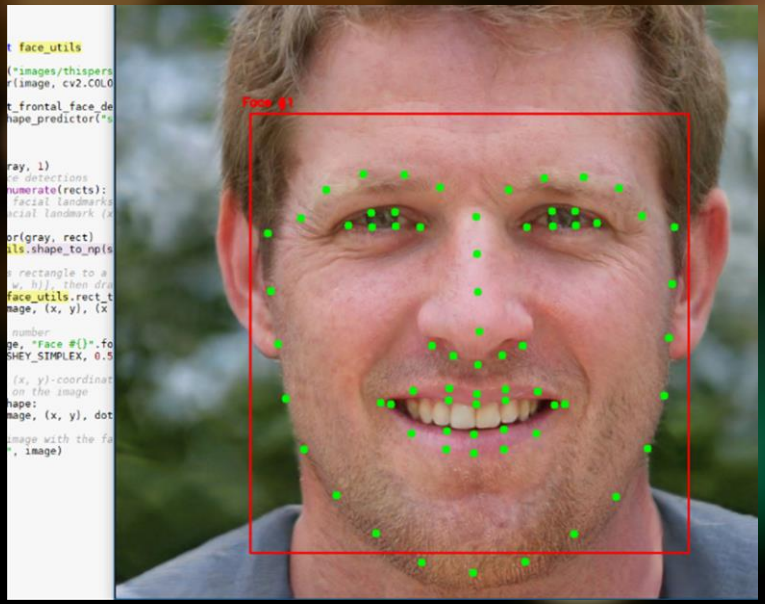
Face recognition
Live image analysis

Technologies

- OpenCV
- PIL
- NumPy face_recognition library

CLIENT

Educational company in Kazachstan



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CLIENT

An RnD project

Fake Face Detector

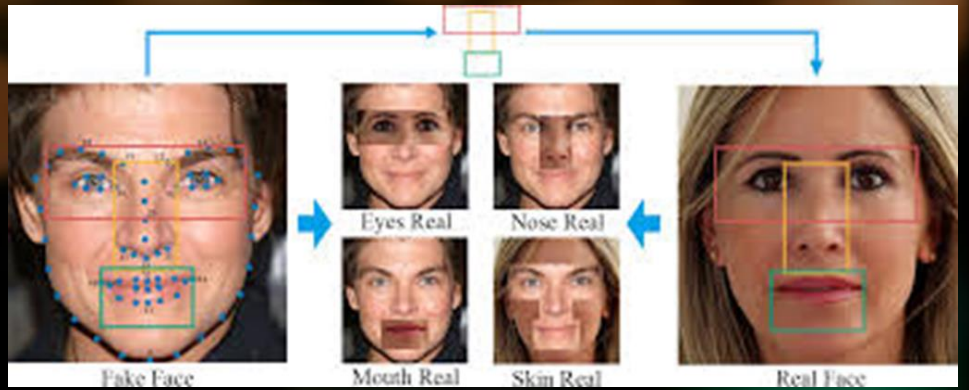
In this RnD project, Elinext engineers developed a solution that can recognize fake and real human faces. To that end, two models were trained — one for generating fake faces and the other for detecting fake faces.

Features

- Real images are fed into the detector
- The generator produces fake images that are also fed into the detector
- Calculating the back propagation error for the detector
- Fake faces are generated again and fed to the detector, but marked as real
- Calculating the backpropagation error again, but applying the optimization only to the generator

Technologies

- Torch
- NumPy
- Matplotlib
- GAN



Stereo Face Detector

The project focuses on facial detection in video streams, aiming to determine 3D position of a face in space.

Features

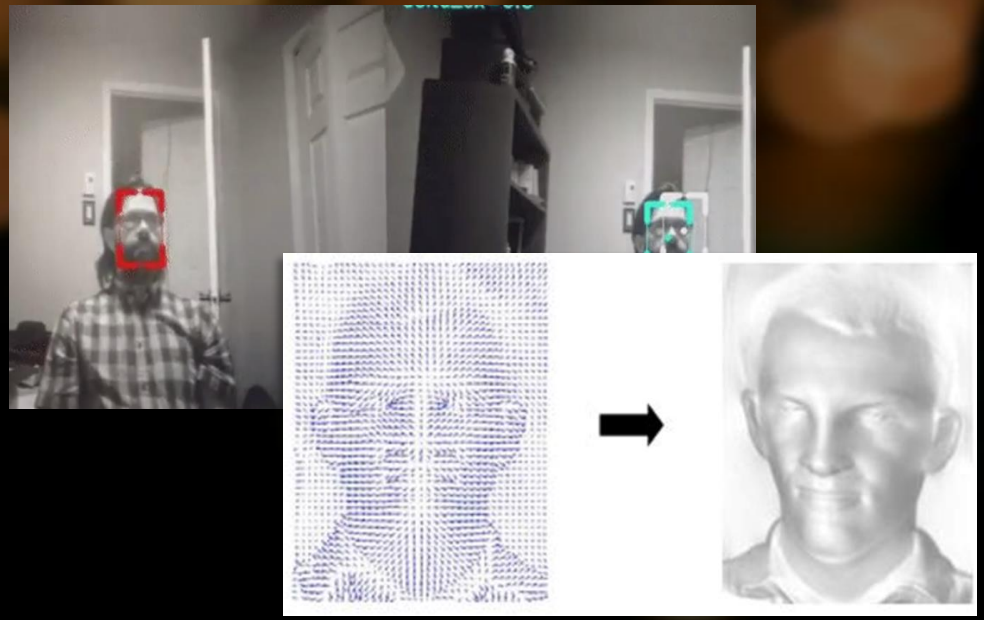
- Developing a system to track the 3D coordinates of a face
- Configuring two video streams from cameras as a stereo pair

Technologies

- OpenCV
- NumPy
- Pandas

CLIENT

A private client



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Chatbot

Elinext developed a conversational AI assistant based on Rasa framework to help answer customer inquiries on the website, saving both time and money.

Features

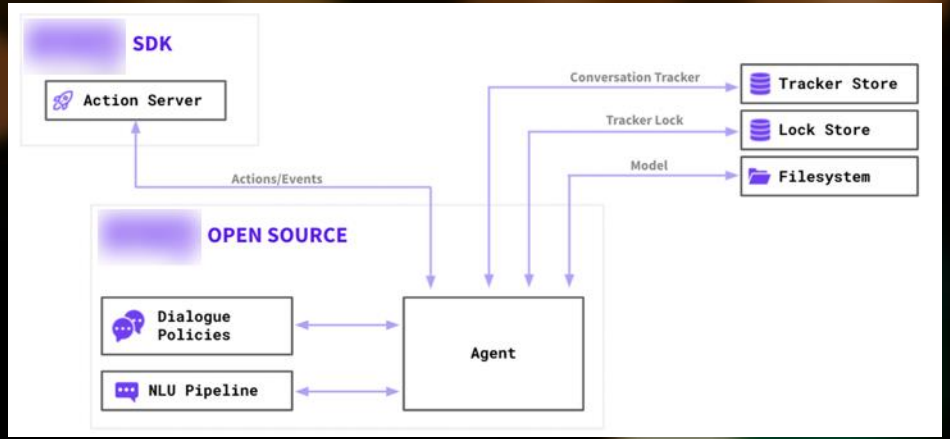
- Conducting a dialogue with a site visitor
- Recognizing questions and intents
- Extracting relevant entities from the requests
- Support for English and Spanish language models

Technologies

- Rasa framework

CLIENT

A German technology company



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NLP Model for Text Processing

The solution allows matching words from user texts with those in a database, providing users with improved phrases from the database. The tool helps users generate effective, high-impact slogans and phrases by analyzing outcomes from previous campaigns and refining the text.

Features

- Searching for words matching the user's text and texts in databases
- Processing texts to add tags and triggers
- Multilingual support

Technologies

- spaCy
- Matcher

CLIENT

A marketing service company

elinext

Telegram Bot

Delivering a Telegram bot to facilitate discussions with users, helping them find information in a specific area.

Features

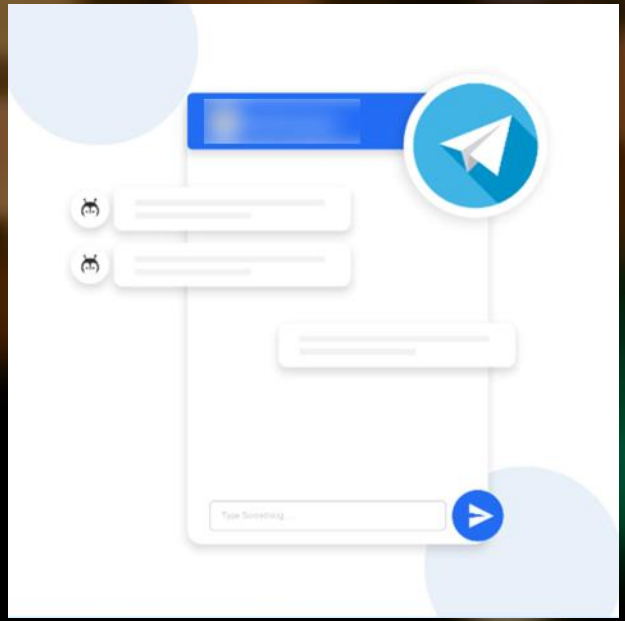
- Leveraging BERT model to search for the best response in text
- Integration with Telegram

Technologies

- Pytorch
- Transformers
- BERT

CLIENT

An American technology company



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CLIENT

An in-house project

Document AI

Elinext team used Google's Document AI to create a document processor that simplifies PDF document parsing. By implementing the tool, businesses can automate manual processes and reduce human error.

Features

- Extracting unstructured data from documents
- Transforming it into structured data (specific fields in a database), making it easier to understand and analyze

Technologies

- Document AI

elinext

Anomaly Detection

The project's goal was to detect anomalies in time series data. This involved two datasets: taxi traffic in New York and financial data on stock market manipulations in the U.S. since 2015.

Features

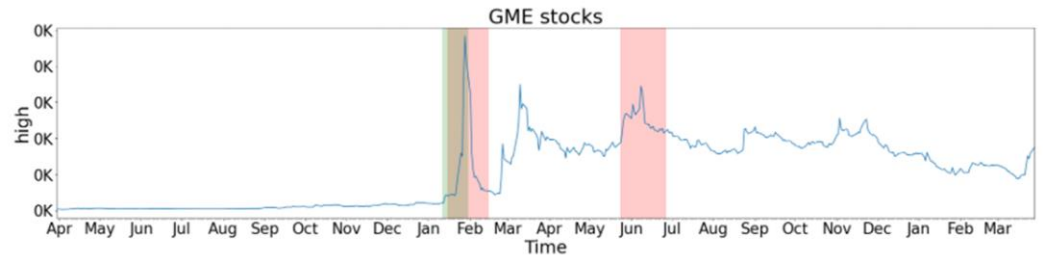
- Providing visibility into the demand and supply of taxis for better efficiency of the urban taxi system
- Identifying unusual stock price dynamics

Technologies

- TadGAN
- Isolation forest
- PyCaret

CLIENT

An American corporation



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Bond Rates Analysis

Elinext team worked on a solution that analyzes time series data related to bond rates in order to forecast different rates and optimize portfolio.

Features

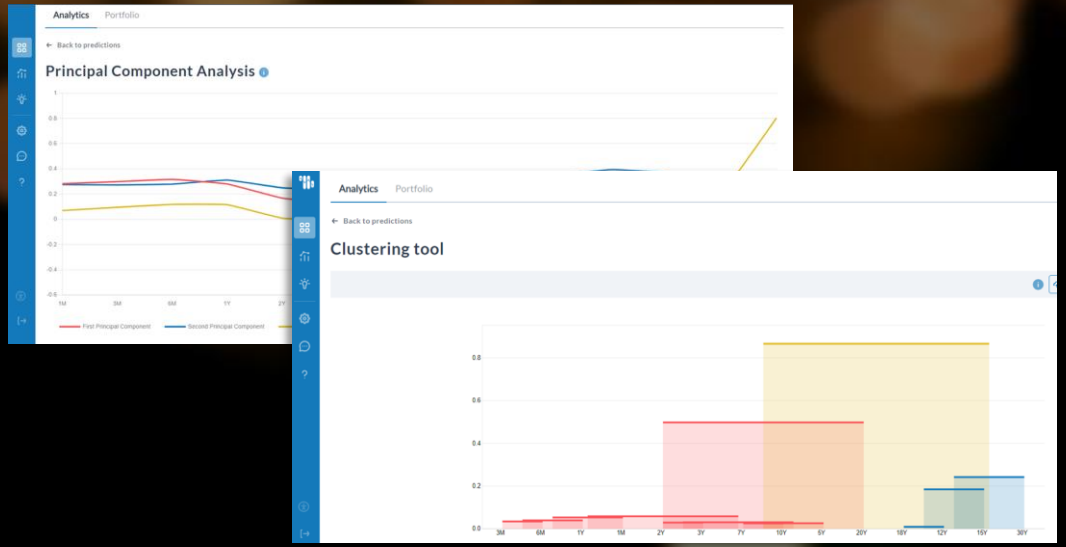
- Using ARIMA models and principal component analysis to predict yields for various assets
- Predicting the interest rate based on external data
- Determining the basis point value increase based on stock price dynamics over time
- Portfolio optimization suggestions to maximize returns based on a set of assets

Technologies

- TadGAN
- Isolation forest
- PyCaret

CLIENT

An American financial company



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Product Categorization for a Price Aggregator

Elinext engineers were tasked to categorize products based on their text descriptions. These categories were further used for Google's site indexing.

Features

- Assigning each product in a database a category from 1 to 27
- Generating a subset of products with correct category assignment

Technologies

- fasttext library
- Pandas
- NumPy

CLIENT

An e-commerce company

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Medical Fraud Detection

The project is a web application that aims to help hospital administrators and insurance companies detect fraudulent contractors.

Features

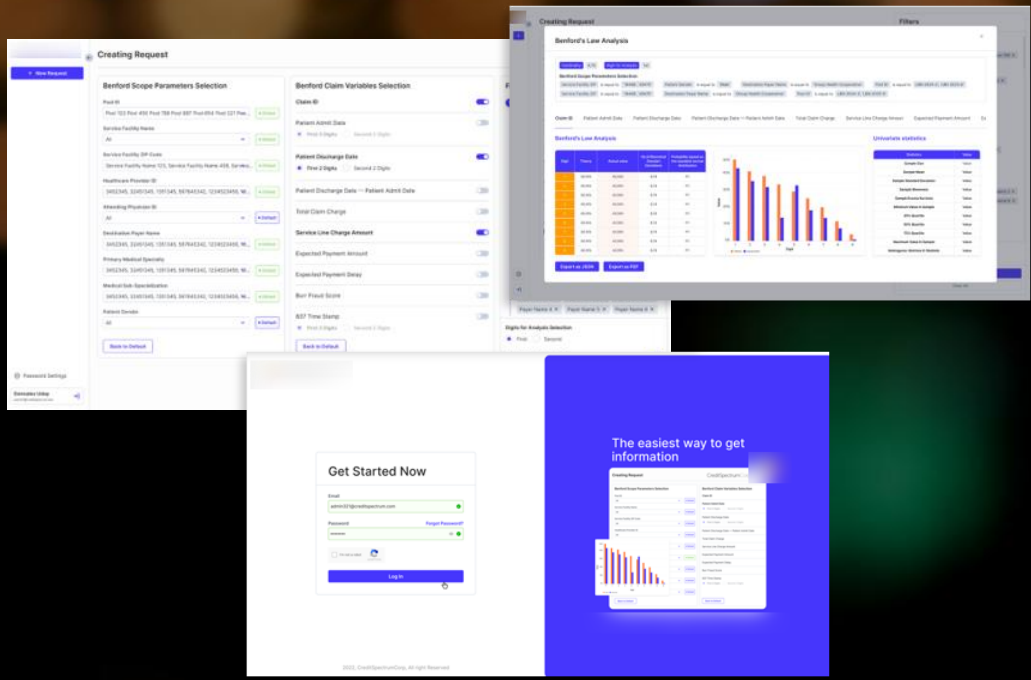
- Collecting large amounts of reports from healthcare institutions
- Computing the observed digital distribution according to Benford's Law and other significant statistical data
- Identifying fraudulent and suspicious transactions

Technologies

- Python
- Pandas
- NumPy
- Angular 16
- PrimeNG
- chart.js

CLIENT

A healthcare provider



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Electricity Analytics Service

A Canada-based electricity company engaged Elinext to deploy their models on AWS using AWS Sagemaker service.

Features

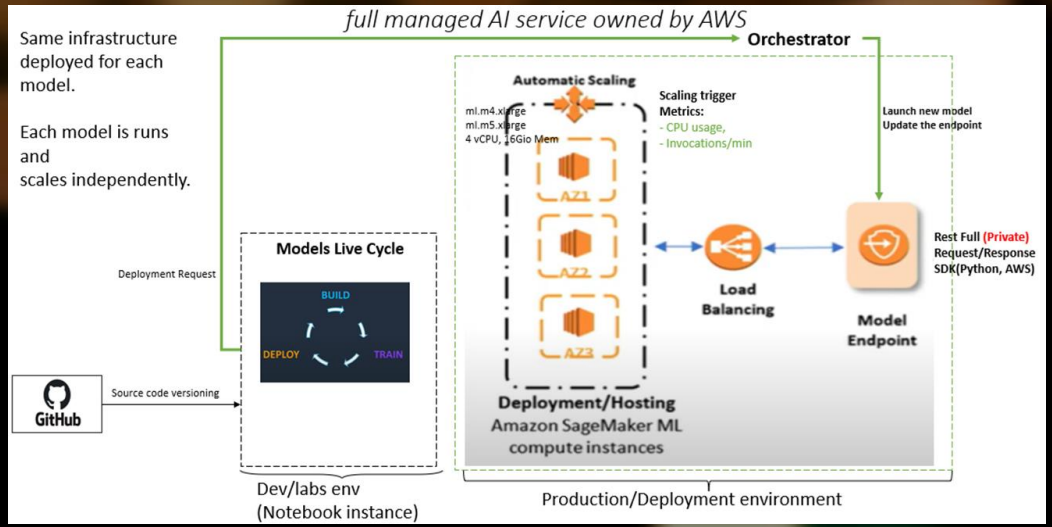
- Automated code deployment — when pushing updates on GitHub, the model on AWS is also automatically updated.

Technologies

- AWS Sagemaker
- Jupyter notebook

CLIENT

A Canada-based electricity company



Biotechnological Machine Learning Tool

A biotech company that offers digital twins solutions to forecast manufacturing volumes approached Elinext to help with optimization of training processes for machine learning algorithms.

Features

- Process optimization
- Development of machine learning methods

Technologies

- Python
- Pandas
- NumPy
- CasADi
- NumPyro
- JAX
- Matplotlib

CLIENT

A Japanese biotechnology company

Helpdesk Chatbot - EliAssist

To automate IT service requests and improve user satisfaction, Elinext engineers delivered a smart chatbot that engages with a user, captures data and performs relevant actions, be it request generation or task creation

Features

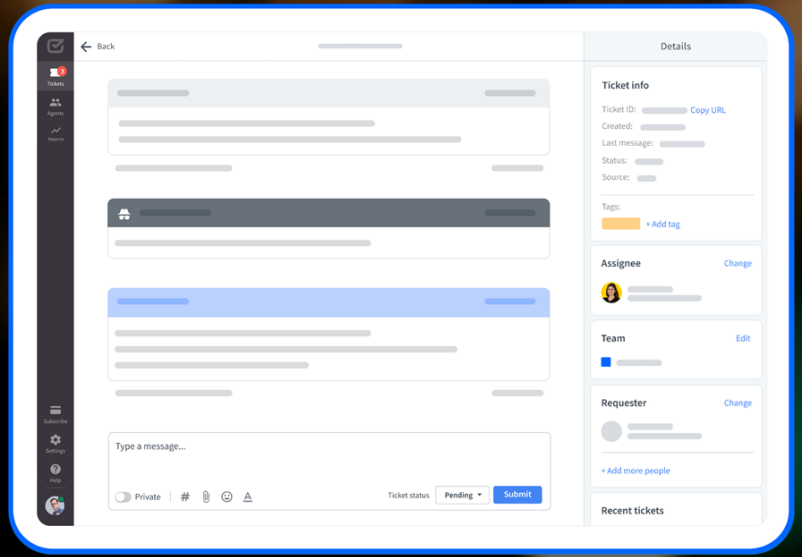
- Gathering data through a series of intelligent questions
- Generating a structured request to the company administrator
- Sending an email
- Creating a task in Redmine

Technologies

- Python

CLIENT

An in-house project



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Dental Condition Recognition

A US-based healthcare provider engaged Elinext to develop an ML-powered solution for automated recognition of dental issues such as cavities, cracks, or structural damage in teeth. Early detection allows for timely intervention and treatment, preventing the progression of dental problems.

Features

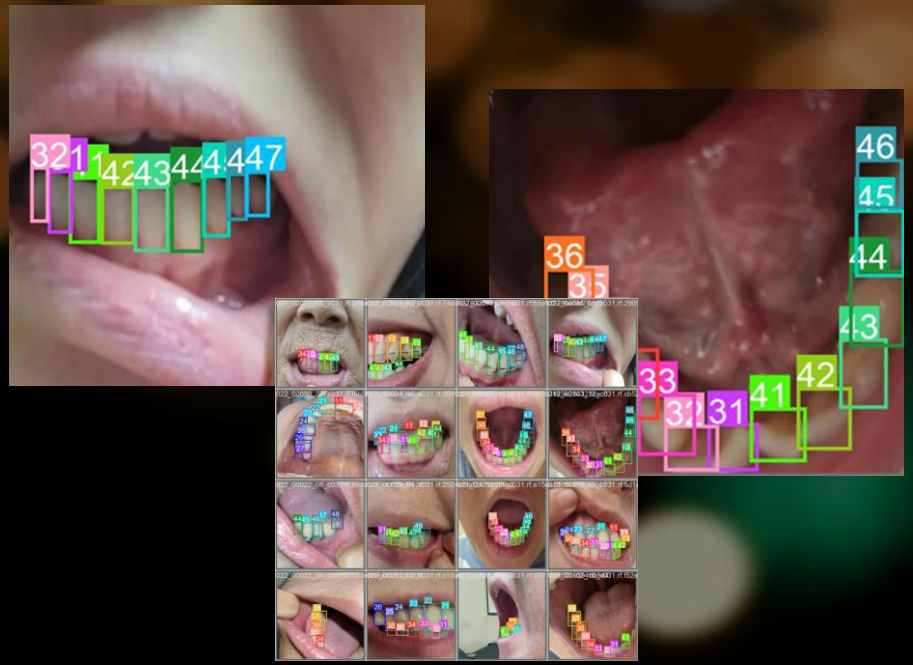
- Uploading the photo to the system
- Selecting the task of interest, i.e. find existing or missing teeth
- Receiving an additional brief report to complement the photo

Technologies

- Python
- Yolo

CLIENT

A US-based healthcare provider



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Solar Panel Inspection Solution

Elinext delivered an efficient solution for monitoring and maintaining solar panel installations. The solution contributes to maintaining optimal energy production efficiency, thereby reducing wastage and having a positive environmental impact.

Features

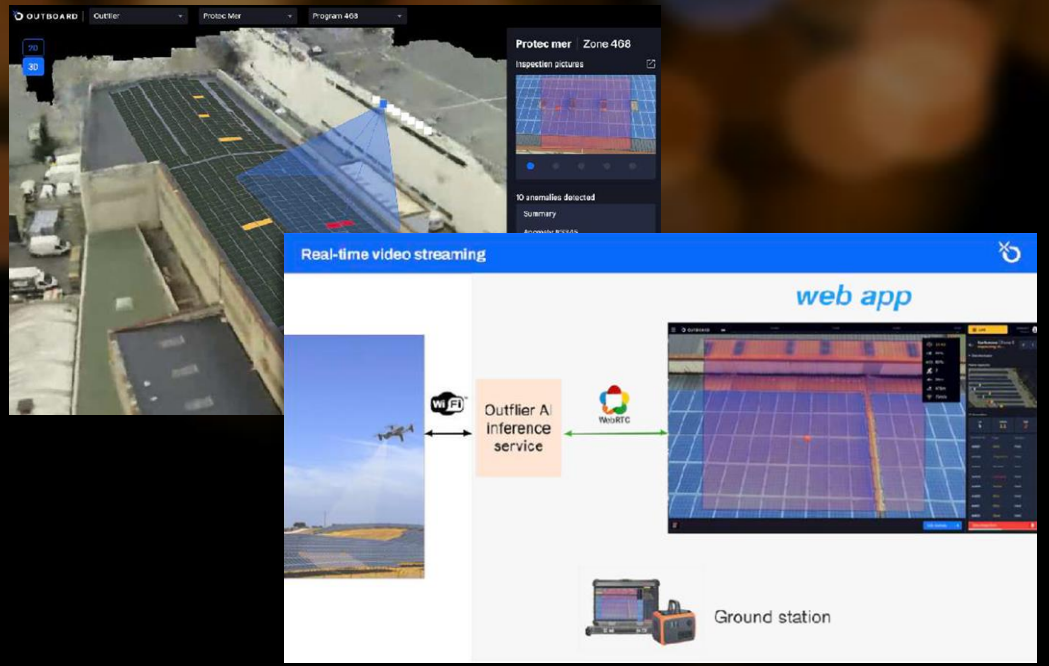
- Constructing detailed 3D models based on high-resolution images from drones
- Quickly detecting damaged or contaminated panels
- Can be scaled to cover larger solar panel fields more efficiently

Technologies

- Python
- Flask
- SQL
- React
- Three.js
- Mapbox.js
- WebRTC

CLIENT

Green energy American provider



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Equipment Failure Detection and Prediction (EFDP)

A leading provider of solutions for wireless LAN infrastructure engaged Elinext to develop a solution that leverages predictive analytics to detect and predict equipment failures for large enterprises with a huge number of components.

Features

- Analyzing vast datasets and identifying patterns and precursors to potential breakdowns
- Forecasting equipment failures across complex and expansive infrastructures
- Minimizing maintenance costs and downtime

Technologies

- Python

CLIENT

A leading provider of solutions for wireless LAN infrastructure

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Voice Control Mobile Application for Warehouse Operators

Elinext developed a voice recognition Android app for a top French cold chain warehouse provider. This app, used with a headset, boosts worker productivity by enabling hands-free, voice-guided workflows for safe, efficient, and accurate picking and packing.

Features

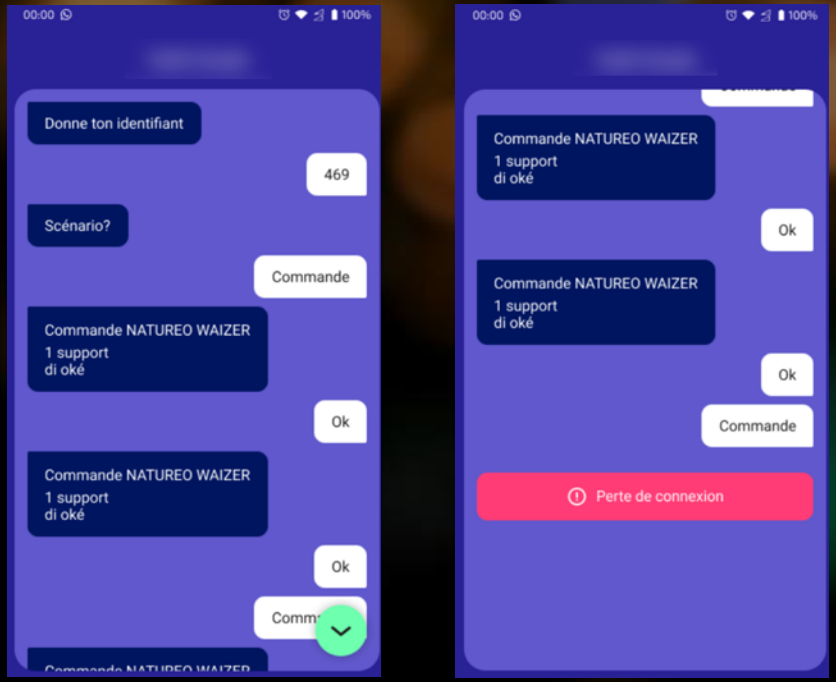
- Compatibility with usual headsets
- Ability to transform speech to text and text into speech
- Sending requests to and receiving responses from Warehouse Management System
- Displaying process logs on user interface

Technologies

- Kotlin
- Retrofit
- Room database
- Dagger 2
- Jetpack Compose
- MVVM

CLIENT

A top French cold chain warehouse provider



Custom Room Furnishing

The project involves a solution that identifies a room from a photograph and restores its 3D model, providing a comprehensive view of the space. This solution is particularly useful for interior design and visualization tasks, helping the client attract new customers and increase furniture sales.

Features

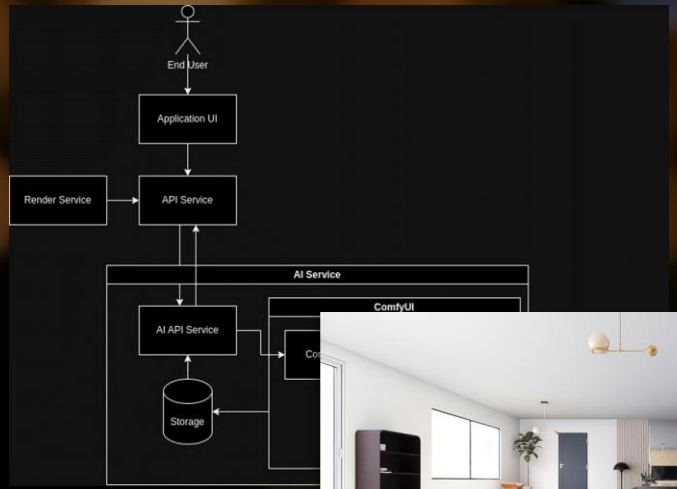
- Identify a room with its measurements from a provided picture
- Removing furniture objects from the image
- Facilitating the arrangement of custom furniture within the identified space

Technologies

- ComfyUI
- AI API Service

CLIENT

An interior design company



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Vehicle Passport Reader

A cutting-edge mobile application designed for Swiss car dealers, offering the optical character recognition (OCR) functionality to streamline the car selling process.

Features

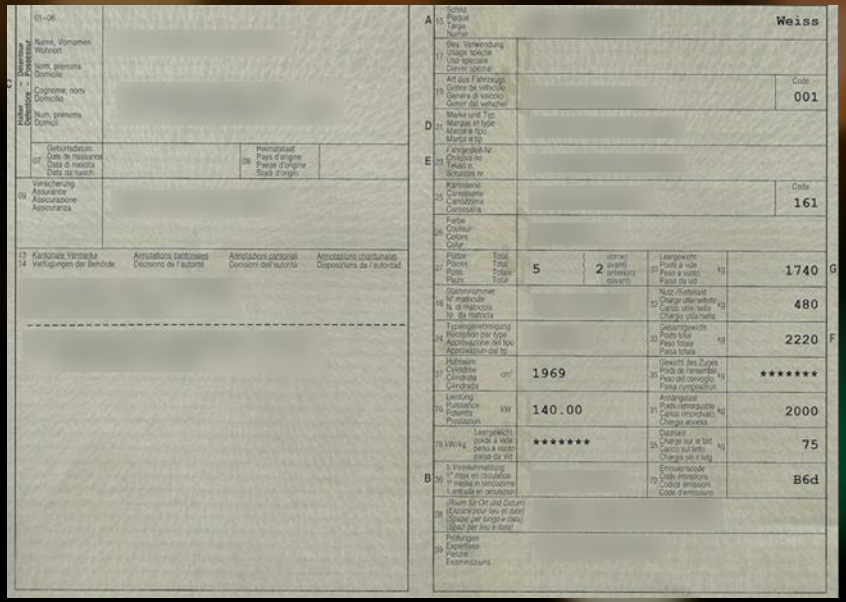
- Capturing the technical passport of the vehicle, which is available in 4 languages
- Automatically extracting and processing the necessary information
- Conducts database queries
- Provides the dealer with an instant valuation for the customer's car

Technologies

- OCR - Google Vision
- Java

CLIENT

A Swiss car dealer

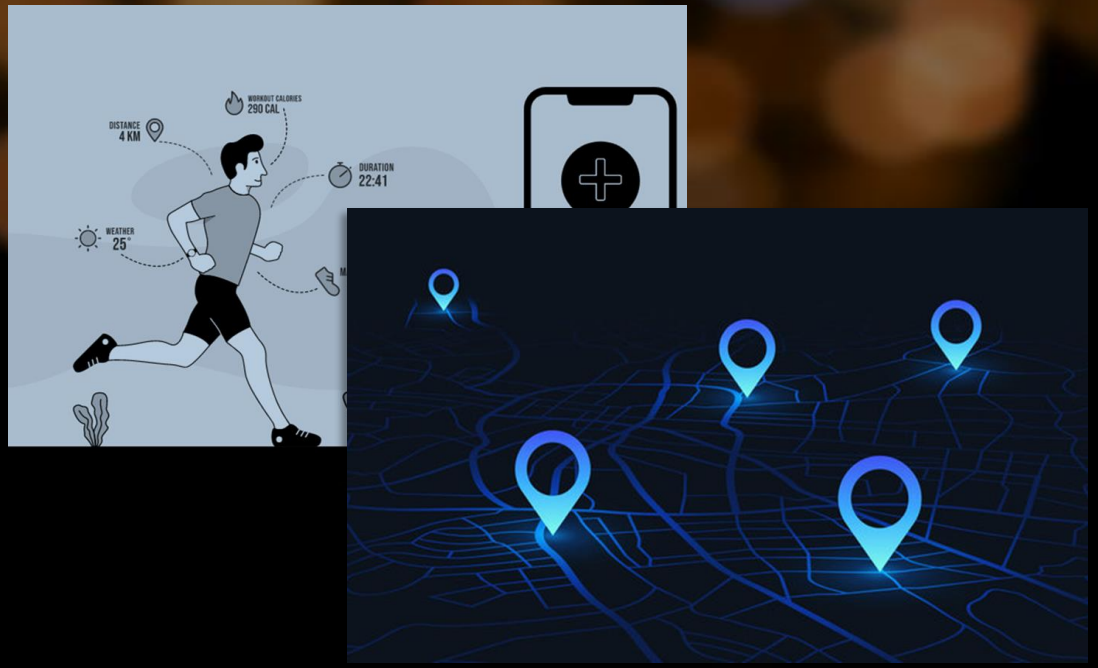


Activity Tracking and Recommendation System

CLIENT

A welness company

The project is a user-friendly application that offers a personalized experience by tracking user activity and leveraging predictive algorithms to optimize daily schedules. ATR reduces unnecessary travel and promotes effective time management.



Features

- Monitoring steps and activity
- Generating a customized calendar of tailored offers and suggestions based on the individual's routines
- An extensive analytics component, powered by mathematical and statistical libraries, for precise detection of user locations, durations, and patterns

Technologies

- Python
- TensorFlow
- Java
- Node.js

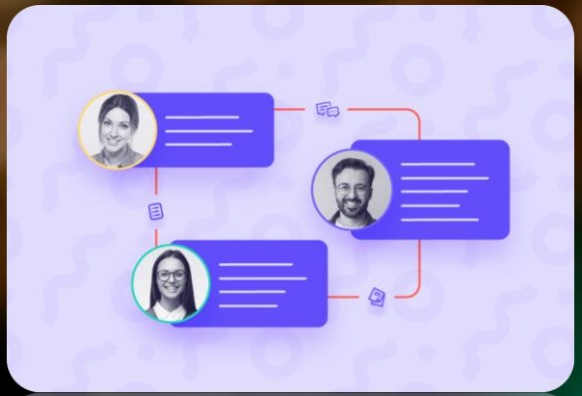
elinext

An AI Bot for Meeting Notes

CLIENT

An in-house project

Elinext team is working on an AI-powered software solution for taking meeting minutes that are structured as legal documents, offering a unique competitive advantage in the market.



Features

- Joining meetings
- Listening and recognizing participants' speech
- Taking notes
- Generating a report

Technologies

- Python
- AWS

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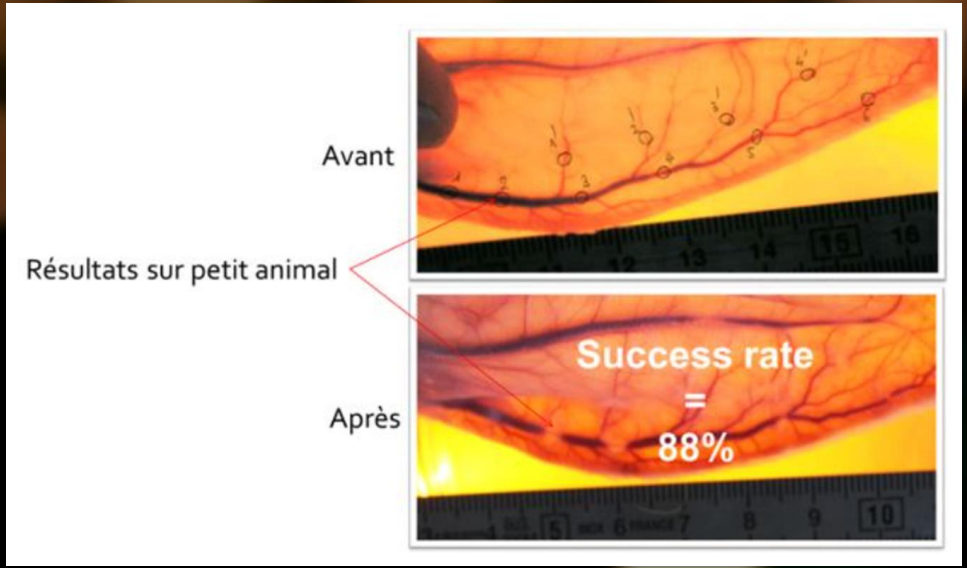
Vein Detection Solution

CLIENT

A French medical service company

A client from France needed help with their device for diagnostics and treatment of blood vessels using ultrasound. Our task was to create a computer vision algorithm that would work on the device and improve diagnostics accuracy.



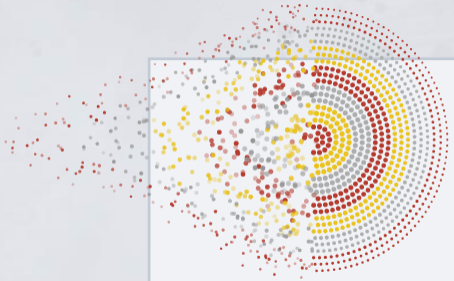
Features

- Detecting veins on the ultrasound device cameras
- Commanding the device to stop if a vein moves out of the visibility zone

Technologies

- Python
- OpenCV
- Raspberry Pi5
- FreeBSD

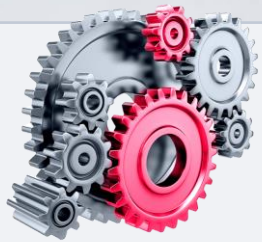
Solutions We Deliver



Data Management & Big Data

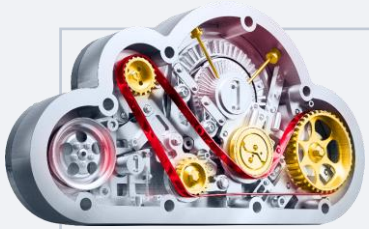
Business Intelligence / Analytics

Artificial Intelligence, Machine Learning, Robotic Process Automation



Quality Assurance

Internet of Things



Cloud-Solutions

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Cooperation Models

Fixed Cost

- To freeze project costs having a very detailed scope of work and schedule
- To avoid investing too much time in budget control and project tracking
- To develop an MVP or a small-scale product under $50,000 USD
- To have a high level of predictability

Time and Materials

- To be agile and adapt quickly your product to the market demand and internal needs
- To control the project costs and progress but it is difficult to define upfront scope, schedule and scope outlines
- To decrease costs by saving money calculated by the IT vendor for possible project risks

Dedicated Team

- To extend your team’s capacity
- To add specific knowledge or skills to your team
- To speed up your development process quickly
- To rely on the vendor's dev team as if it was sitting in our office

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Quality Delivered by the Team
(Agile Model)

Discovery and Design phase

- Team setup
- Plan and prepare
- Refine requirements (Functional and Non-Functional)

- Design
- Architecture
- Infrastructure
- Product backlog

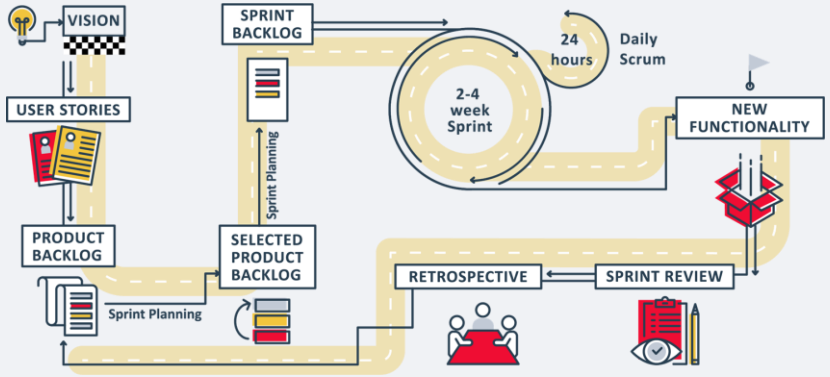
Development – 1 sprint (1-2 weeks) – recurring till the final delivery

- Sprint backlog and planning
- Feature(s)
- "Ready for Release"

- Sprint backlog and planning
- Feature(s)
- "Ready for Release"

Initial Analysis of requirements, planning, UI/UX Design (1-4 sprints):

- Proof features and their priority by value and complexity
- Design a truly flexible and future-proof solution
- Plan an effective communication model
- Ensure further possibility to develop several services/ features in parallel



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elinext

From ML to computer vision, Elinext helps you leverage cutting-edge tech to propel your company into the FUTURE!

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