



PFE BOOK

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00
01
02

01

+ **Company Overview**

02

+ **Project Field**

03

+ **Project List**

04

+ **How to Apply**

05

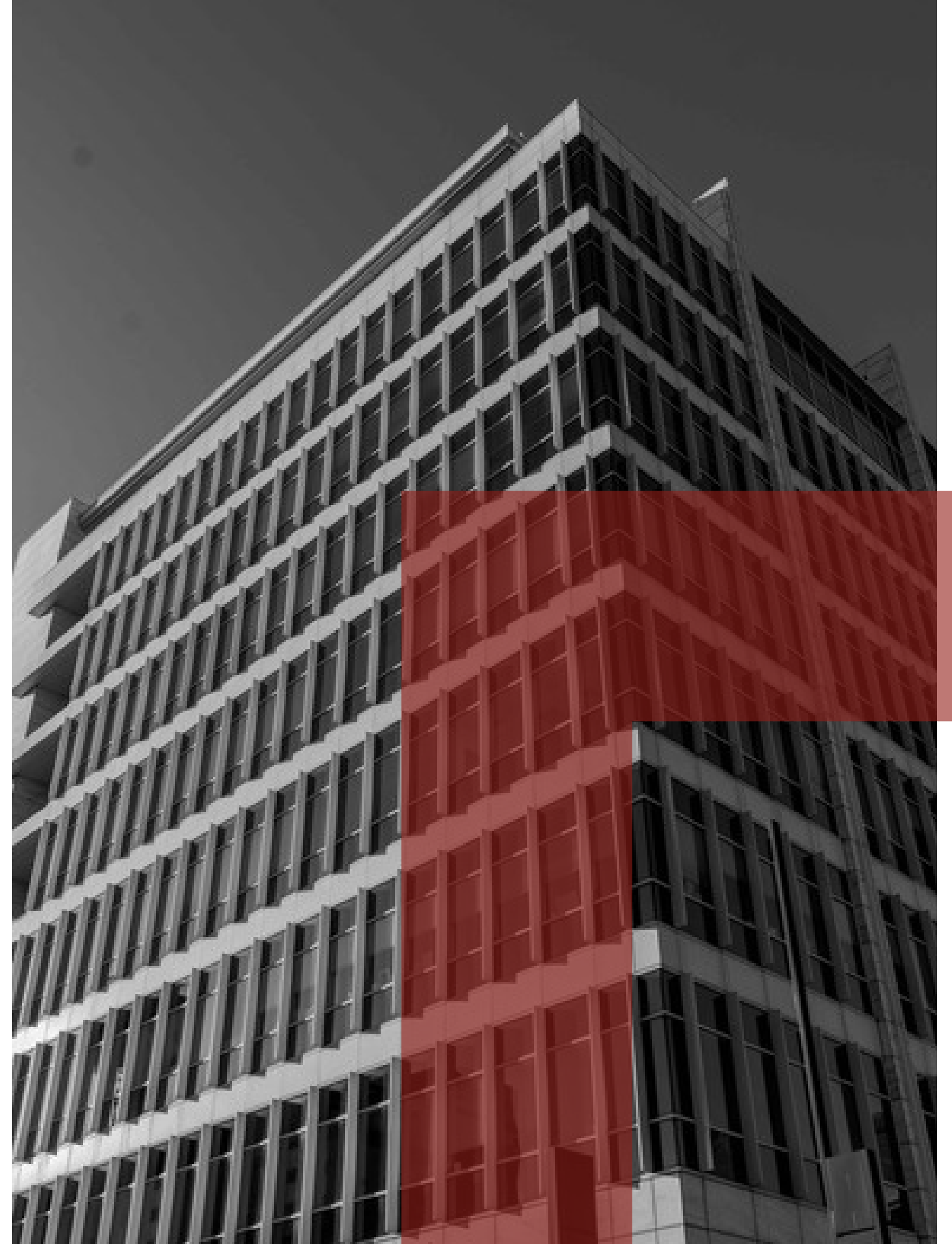
+ **Contact Us**

TABLE OF CONTENT



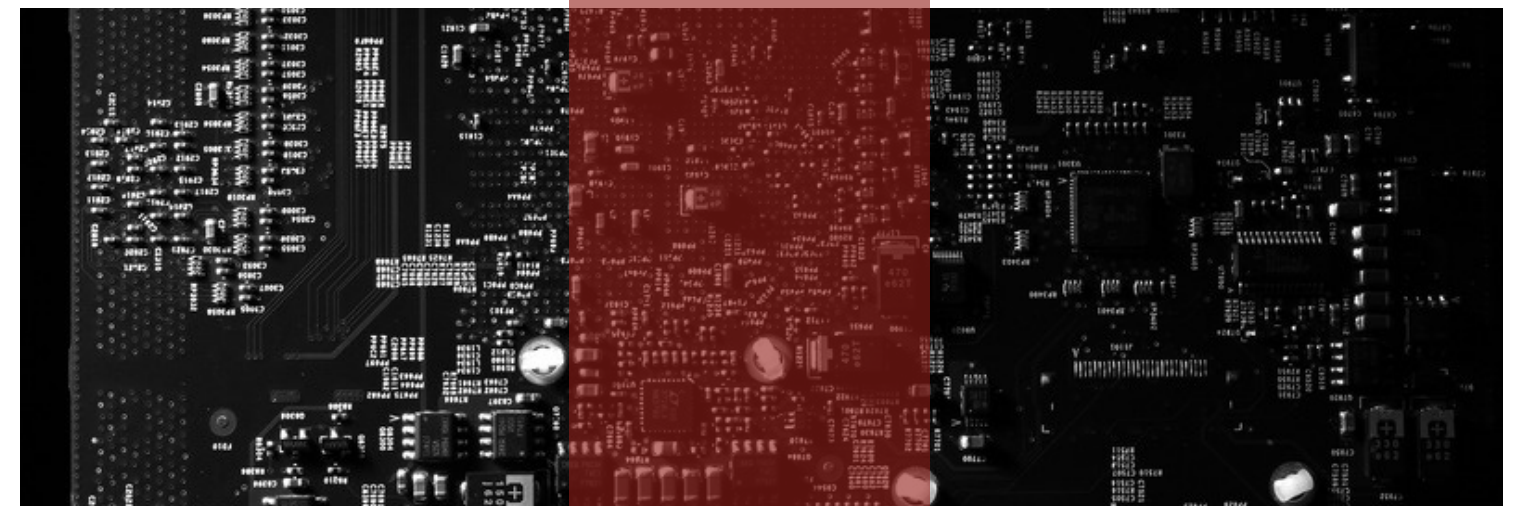
COMPANY OVERVIEW

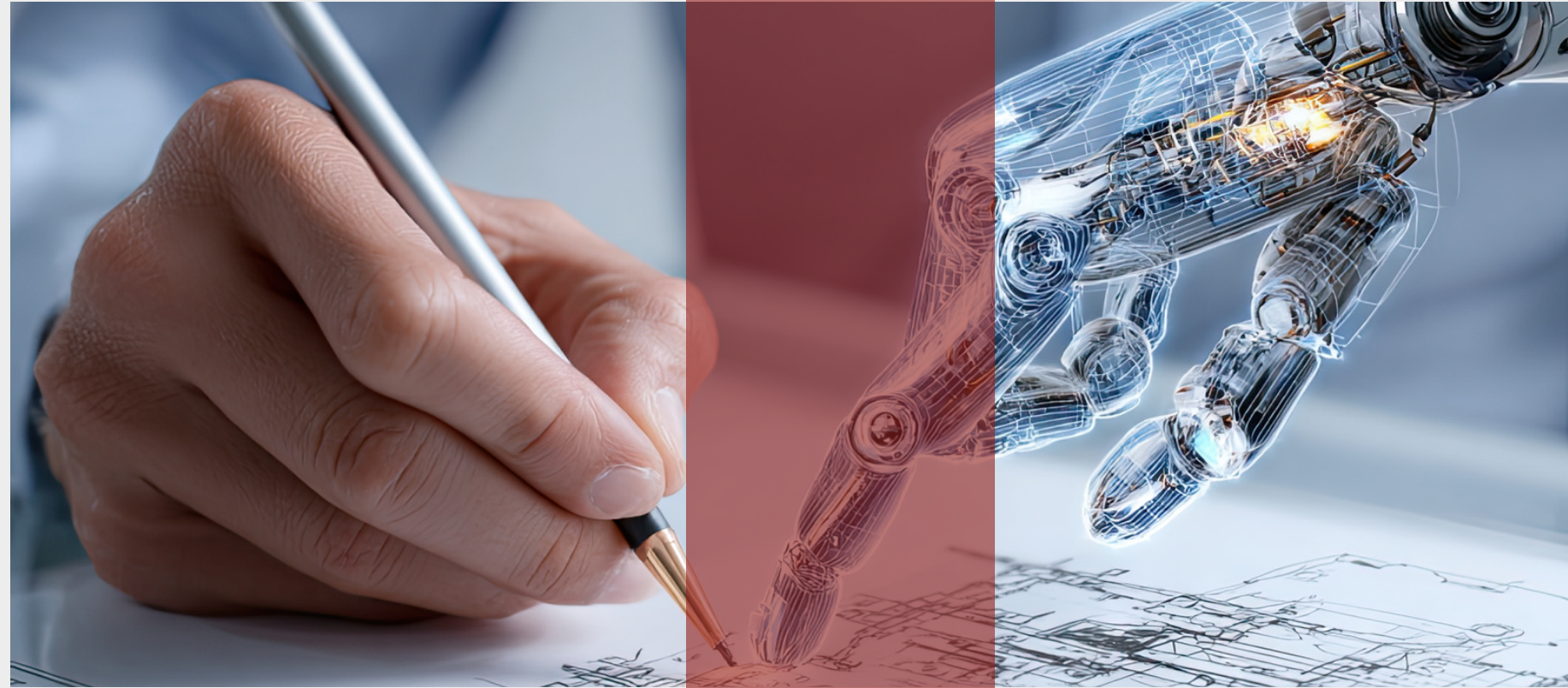
- + With over 10 years of success in the information technology sector, we bring our vision to life from start to finish. From initial design to final product delivery, we provide you with access to cutting-edge technology.



Projects Fields

- Artificial Intelligence
- Full stack web





Project 1: Development of a Secure Local Large Language Model (LLM) for Confidential Data Processing

+ Project Description:

This project aims to design and implement a local large language model (LLM) capable of processing confidential or sensitive data securely within a private infrastructure. The objective is to adapt and fine-tune existing open-source LLMs (such as GPT, BERT, or LLaMA) on domain-specific custom datasets, ensuring both high performance and strict data privacy. The system will integrate modern AI agent architectures and leverage Retrieval-Augmented Generation (RAG) techniques to enhance contextual understanding and response accuracy. Additionally, the project will explore vector database integration for efficient knowledge retrieval, enabling the model to interact dynamically with structured and unstructured data sources. By the end of this project, the student will deliver a fully functional local AI assistant, optimized for enterprise use cases requiring secure, private, and high-accuracy natural language understanding.

Objectives

- + ● Deploy and benchmark open-source LLMs locally.
- Fine-tune models on custom and confidential datasets.
- Integrate RAG for improved context-based reasoning.
- Build an intelligent AI agent capable of secure query handling.
- Ensure privacy-preserving and offline-capable architecture.

Required Skills

- + ♦ Deep understanding of Large Language Models (LLMs) – GPT, BERT, LLaMA ♦ Experience in fine-tuning, deploying, and optimizing AI models ♦ Strong programming skills in Python ♦ Proficiency with Transformers and PyTorch ♦ Familiarity with RAG, vector databases, and database management – PostgreSQL ♦ Knowledge of AI Agents and autonomous system design ♦ Curiosity, adaptability, and commitment to stay up to date with the latest AI advancements





Project 2: AI-Enhanced Competitive Intelligence Dashboard for E-Commerce Market Analysis and Strategy Recommendation



+ Project Description:

This project aims to develop an AI-powered competitive analysis platform for the e-commerce sector, capable of collecting, analyzing, and comparing product data from multiple online retailers. The system will continuously scrape pricing and product information, monitor price evolution over time, and extract key performance indicators (KPIs) related to pricing strategy, stock trends, and promotional dynamics. To enhance the analytical capabilities, the project integrates an AI-powered Recommendation Engine for Competitive Strategy, designed to provide actionable business insights. Using machine learning models, the system will identify market opportunities, forecast pricing trends. Additionally, the dashboard will incorporate natural language summarization capabilities through an LLM to generate automatic executive reports summarizing weekly market movements, and recommend strategic actions such as optimal price adjustments, promotional timing, and restocking priorities. By the end of this project, the student will deliver a fully functional interactive dashboard combining data analytics, visualization, and AI-driven strategy intelligence — providing a smart decision-support tool for e-commerce market monitoring.

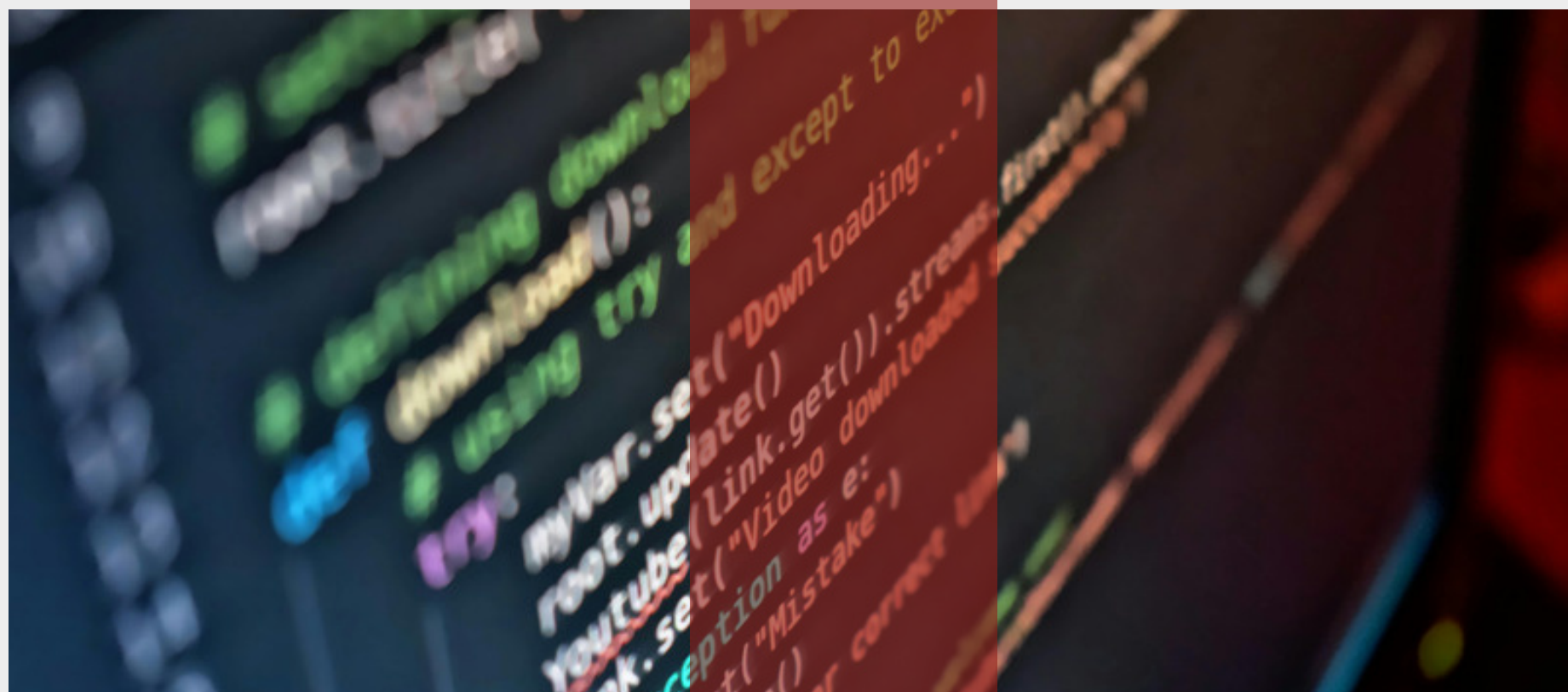
Objectives

- + ● Automate data scraping and product information extraction from multiple e-commerce sources.
- Build a hybrid database architecture (PostgreSQL, MongoDB, DuckDB, ...)
- Design and implement an interactive dashboard for competitive analysis and KPI visualization.
- Integrate predictive models to forecast price trends and market changes.
- Generate AI-written summaries and insights using an LLM for management reporting and recommend strategic actions.

Required Skills

- + ♦ Strong programming skills in Python ♦ Experience in data scraping and web automation (BeautifulSoup, Scrapy, Selenium) ♦ Proficiency in data analysis and visualization (Pandas, Plotly, Streamlit, Dash) ♦ Knowledge of machine learning for forecasting and recommendation systems (LSTM, scikit-learn) ♦ Familiarity with LLMs and text summarization techniques (GPT, BERT, RAG, LangChain) ♦ Experience with PostgreSQL, MongoDB, and DuckDB for hybrid data management and real-time analytics ♦ Curiosity, analytical thinking, and commitment to exploring the latest AI and data-driven decision tools





Project 3: Remote Work Supervisor App



Project Description:

The Remote Work Supervisor is a comprehensive application designed to monitor, support, and analyze the activity of remote employees. Its goal is to provide transparency and insight into daily productivity while respecting employee privacy to a reasonable extent for professional evaluation.

- Track employee activity throughout the workday, distinguishing between active work and break time.
- Automate detection of idle periods using mouse movement and inactivity thresholds.
- Periodically capture screenshots (every 10 minutes) to validate active work and deter superficial activity (e.g. only moving the mouse).
- Offer a pointage (clock-in/out) system for starting work, leaving, and declaring breaks (with reasons, such as lunch).
- Allow overtime declaration, even during breaks.
- Enable team members to declare which projects they are working on and record hours spent per project.
- Provide an HR dashboard with real-time employee statistics, alert functionalities, and tools to manage projects and assign team members.
- Ensure all data privacy standards are respected where required.

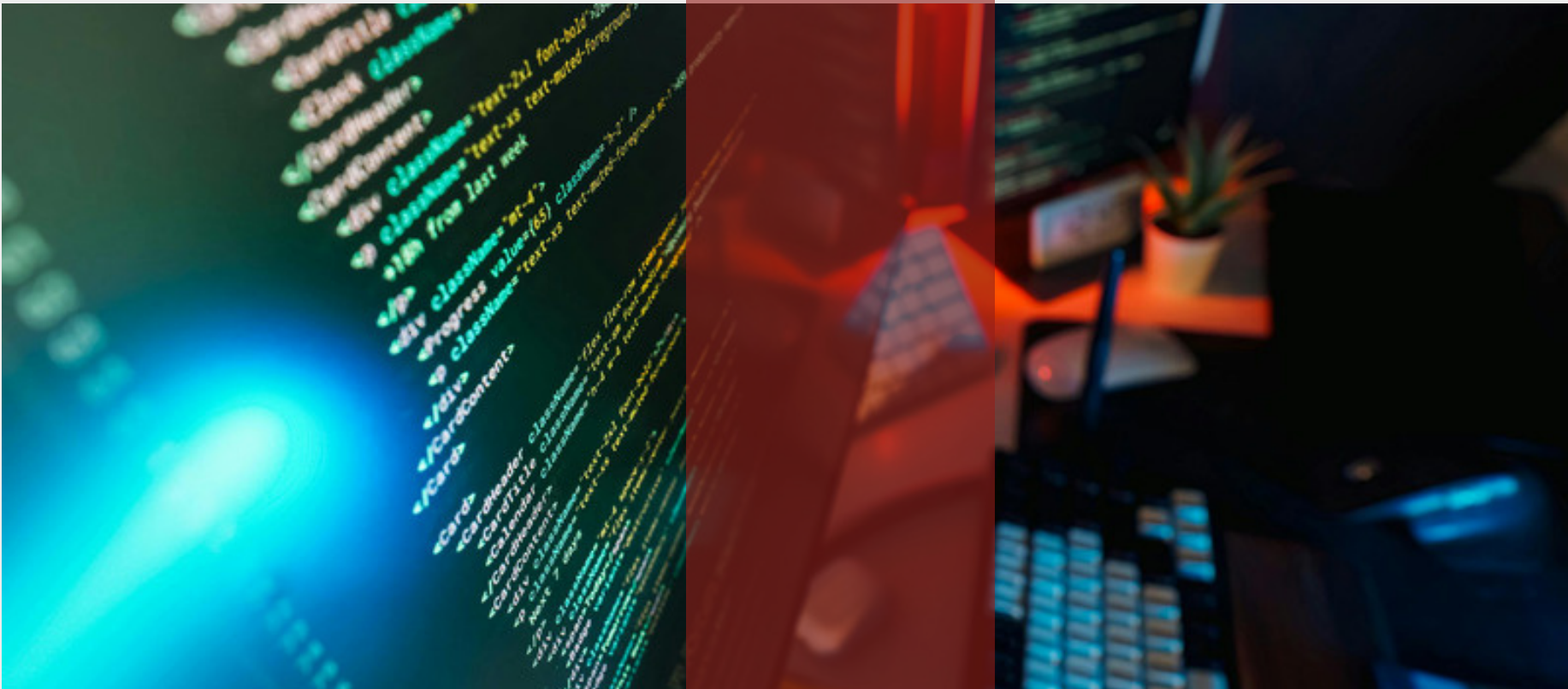
Objectives

- + ● **Active/idle tracking via mouse position:** after 15 minutes of inactivity, time is recorded as break.
- **Automated screen capture every 10 minutes;** images are compared using basic image difference algorithms to detect cheating.
- **User-facing controls for declaring pointage, start/stop, breaks (with reasons).**
- **Real-time HR dashboard:** project assignment, member statistics, team alerts (via web notifications).
- **Project & time declaration** (user must select a project and log hours).
- **API endpoints for integrating with HR tools or timesheet software.**
- **Overtime tracking and reporting.**
- **Secure storage and processing of screenshots and activity logs.**
- **Optional: Mobile notifications or web push alerts from HR.**

Required Skills

- + ● **Frontend:** Angular (modern web app)
- **Backend:** Strapi (Node.js-based headless CMS for rapid API development)
- **Database:** PostgreSQL (reliable, scalable database)
- **Containerization & Deployment:** Docker





Project 4:CV Parser & Evaluation Platform



+ Project Description:

A web platform where HR can easily open hiring sessions, collect CVs, and streamline the evaluation process. The system analyzes incoming CVs, parses them for relevant data, evaluates their completeness, and automatically re-generates each CV into a standardized company template for unified review.

- Enable HR to open/manage hiring sessions and define desired positions and criteria.
- Allow candidates to submit CVs directly onto the platform (PDF/Word support).
- Parse CVs to extract key information (education, skills, experience, etc.).
- Automatically detect missing or incomplete data.
- Generate and display parsed CVs in a unified company template for easy comparison.
- Assign ratings/compatibility scores based on the declared position requirements.
- Track all CV submissions for HR recordkeeping.
- Enable HR to search, filter, and manage incoming applications efficiently.

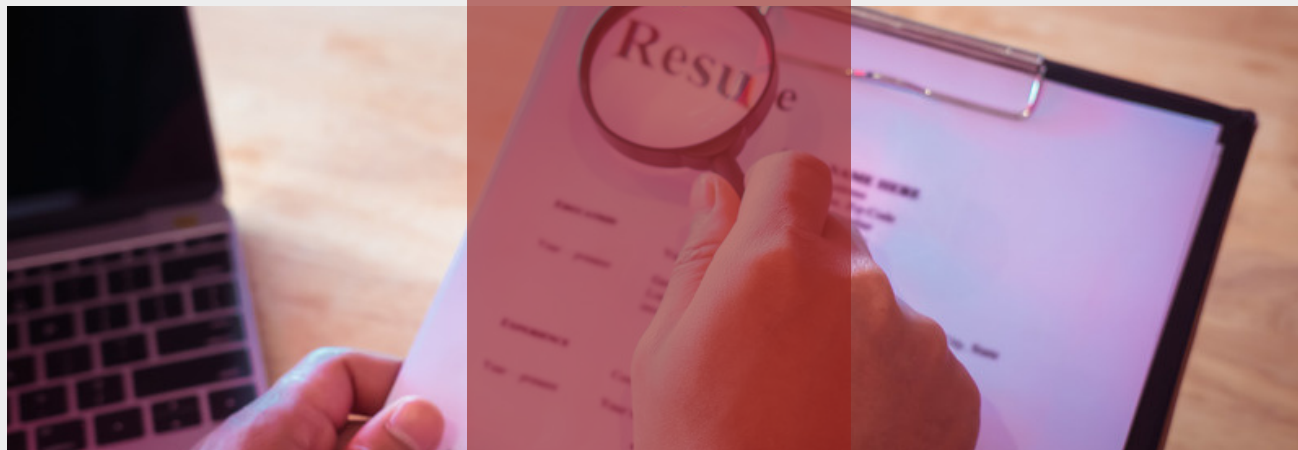
Objectives

- HR session management: create job postings, declare required skills/experience.
- Candidate submission portal: easy CV upload and optional pre-filling forms.
- Parsing logic: extract and structure the data automatically (name, contact, education, experience, competencies, etc.).
- Company CV template generation for all parsed CVs.
- Automated assessment: CV rating based on completeness and fit for the position, highlighting missing information.
- Compatibility matching between candidate profiles and job requirements.
- HR dashboard for real-time tracking, candidate management, and communication.
- Secure storage and GDPR-compliant view/download controls.
- Optional: Integration with LinkedIn/other platforms for auto-fill or verification.

Required Skills

- Frontend: Angular
- Backend: Strapi
- Database: PostgreSQL
- Containerization & Deployment: Docker
- CV Parsing Module: Leverage open-source libraries for parsing (e.g., NLP Python tools bridged via APIs).

How to apply



+ **Make your choice.**

+ **Send us an email with your choice and CV.**

+ **Stay tuned for our response.**



contact us



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THANK YOU

