Alexis Egea

Software Development - Automation - Artificial Intelligence Engineer

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Profile

Driven by a passion for innovation and problem-solving, I am dedicated to exploring new horizons and leveraging cutting-edge technologies like Artificial Intelligence to create real-world solutions.
"Exceeding the limits of the impossible" is my philosophy, and I am committed to pushing my capabilities to demonstrate that everything is achievable through computer science.

Work Experience

Profile Login — 2022-2025

Software Development Engineer Apprentice

Artificial Intelligence

- Development of advanced services for data retrieval, preprocessing, and post-processing for Large Language Models (LLMs).
- Implementation of RAG (Retrieval-Augmented Generation) system using LangChain, combined with LLM-as-a-judge evaluation, to optimize information selection, improve response relevance, and minimize token consumption.
- Design of automated post-processing workflows using evaluation models with Elo-style ranking and binary scoring systems, combined with custom metrics and user queries, to refine outputs, ensure quality control, and dynamically quantify model-provided examples.

Automation

- Design and maintenance of an automated testing platform using Robot Framework (Python) to validate Treasury Management Software.
- Integration of automated solutions based on requirements, execution of validation tests, outcome verification, and issue tracking via Jira ticketing.
- Cross-functional collaboration with Client Support, Sales, and Development teams to ensure alignment and effective communication across departments.

Profile Software — 2024/07-2024/09

Artificial Intelligence Engineer Intern

- Integration of the AI module into a Treasury Management Software.
- Training and Fine-Tuning of Large Language Models (LLMs).
- Creation of instruction prompts and metadata files for the training of AI models on the knowledge of software databases.

CNRS x Oracle Corporation — 2022/05-2022/07

Computer Science Researcher Intern

- Java implementation and tests on Graph Reachability with Indexing Techniques and Advanced Pruning Rules.

Skill

Soft Skills: Problem-Solving, Adaptability, Continuous Learning, Flexibility, Time management, Attention to detail, Collaboration, Autonomous
Hard Skills: Data Generation, Backend and Frontend Development, Prompt Engineering, Advanced IDEs GitHub Skills, LLM Integration, Virtual Environment Management

Certification

NVIDIA Deep Learning Institute
Adding New Knowledge to LLMs

ETS GLOBAL
TOEIC (Test of English for International Communication)
Score: 830/990

Education

IMT Mines Telecom School of Engineering 2022/09-2025/09
Master Science of Degree in Computer Science
Software Engineering - Information System Management - Data Processing - Human and Financial Science
Major: Artificial Intelligence - Computer Vision

Claude Bernard Lyon 1 University 2019/09-2022/08
Bachelor Science of Degree in Computer Science
Algorithms - Programming - Complexity - Fundamentals of Mathematics - Advanced Database, Architecture & System, Network
Major: Computer Science

Center Scolaire Saint-Marc High School 2018/2019
Scientific Baccalaureate in Mathematics

Personal Project

Excel and PDF Invoice Generator (sold solution)
Automated tool for creating invoices in Excel and PDF formats from data extracted from real estate platforms. The system sorts invoices based on their payment status.

Artificial Team
An artificial intelligence pipeline designed to simulate a complete development team capable of autonomously generating fully functional and executable projects. This system is complemented by a custom-built design framework developed from scratch, ensuring smooth integration and adaptability for any AI project.

Image Generator AI Model
Text-to-image model generator using Python and LLMs like DALL-E from OpenAI to create high-quality visuals from text descriptions.
Image-to-image model editor using the ComfyUI tool and open-source LLMs, including Stable Diffusion, Flux, and Foocus, discovered on Hugging Face, to inpaint and outpaint images.

Draw Predict Digits
Computer vision project enabling real-time digit classification through two input modalities: hand-drawn digits and live webcam feed recognition of hand gestures, leveraging advanced image processing and machine learning techniques.

AI Bots
Bots in Java or Python using techniques such as learning protocols (Q-Learning, Alpha-Beta Pruning, Minimax Algorithm, Monte Carlo Methods, Genetic Algorithms), machine learning, game theory, Bellman operations, Policy and others to improve decision-making power in uncertain situations.
Each bot is implemented within a unique game environment that I designed and developed from scratch (Chess, Connect Four, 421, Tic-Tac-Toe, Quoridor, etc.).