Joel Solaeche

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AI Engineer

AI Engineer with a proven track record of building, optimizing, and deploying **end-to-end AI applications** that deliver measurable business impact. Experienced in **RLHF**, **multimodal learning**, and **predictive modeling**, with hands-on expertise in **Python, TensorFlow, FastAPI, Docker**, and **LLM-powered agents**. Skilled at designing **data pipelines**, **credit risk models**, and **AI-integrated and LLM-based web applications**, bridging research and production to create real-world value. Fluent in **Spanish, English, and Japanese**, I bring a global perspective, strong communication skills, and the drive to contribute to innovative, **AI-driven engineering teams** in international and remote-first environments.

Work Experience

AI Engineer – Algolabs AI   Oct 2025 – Present

- Developed and optimized computer vision algorithms for image and video detection, classification, and segmentation.
- Developed a **computer vision system and full-stack application with Flask and connections with MongoDB** for warehouse robots to recognize and match product positions using **YOLO-based object detection**.
- Implemented and trained deep learning models using CNNs and other modern architectures.
- Prepared and preprocessed datasets, including data cleaning, labeling, and augmentation.
- Evaluated and fine-tuned model performance through accuracy and efficiency metrics.
- Documented progress, experiments, and results, ensuring reproducibility and proper version control.
- Integrated trained models into testing and production environments.
- Collaborated with senior and junior engineers within agile workflows (Scrum/Kanban).
- Participated in code reviews and contributed technical improvement proposals.
- Supported implementation tasks during client system deployments when required.

Main Technologies: TensorFlow · PyTorch · OpenCV · OpenVINO · NVIDIA SDK · TensorRT · Jetson Nano · DeepStream · Docker · Git

AI Data Trainer – Scale AI   Aug 2024 – Sep 2025

- Enhanced AI code assistants (Claude Code, Copilot, Codex, Gemini Code Assist) through multi-turn prompt engineering and rubric-based evaluation to improve reasoning, accuracy, and code generation quality.
- Designed **context-engineered prompts** and evaluation frameworks for AI agents performing refactoring, debugging, and documentation tasks.

- Guided **specialized LLM agents** through real-world coding workflows and repository improvements, contributing directly to **AI-assisted SDLC** research.
- Configured and **Dockerized** repositories to enable automated testing and reproducible environments, integrating with GitHub for continuous evaluation.
- Worked with **Cursor** and modern dev tools to prototype rule-based, command-driven AI workflows inspired by MCP (Model Context Protocol) systems.
- Collaborated in an RLHF pipeline, improving AI's understanding of structured reasoning, text, and code contexts.

Main Technologies: Python, Docker, GitHub, Cursor, FastAPI, Prompt Engineering, RLHF, Devcontainers (familiar), MCP concepts, LLM Agents.

Machine Learning Engineer – Anyone AI   Nov 2024 – Apr 2025

- AI-Powered E-Commerce Shopping Assistant: Developed a production-ready conversational AI using LangGraph and MCP, enabling semantic product search over ~50k items, cart management, purchase history–based recommendations, and human-in-the-loop customer support escalation with 100% test coverage.
- LLM-Based Recruitment Tool: Built an intelligent job-matching application using LangChain and LLM technologies (OpenAI GPT-4/Gemini). Implemented a RAG (Retrieval-Augmented Generation) system with vector embeddings and ChromaDB to match candidate profiles with job opportunities. Developed multiple AI agents including a ChatGPT-style assistant, a jobs finder with semantic search capabilities, and an agentic system for personalized cover letter generation. Integrated PDF processing, prompt engineering, and conversation memory management to create an end-to-end recruitment assistant deployed via Chainlit.
- E-Commerce Data Pipeline: Built an ELT pipeline to collect and analyze seasonal e-commerce data, using SQL to connect datasets, extract insights, and identify key trends like holiday impacts on purchase timing.
- Home Credit Risk Prediction: Developed a model to assess whether applicants for home credit could successfully repay their debt through AI training and data collection from CSV files. Processed a dataset of 350,000+ transactions and trained supervised models (DecisionTree, XGBoost, LightGBM), achieving an AUC ROC score > 0.72.
- Image Classifier: Developed and deployed an AI-powered image recognition web app using FastAPI, allowing users to upload images and receive predicted names of objects or entities.
- Multimodal Machine Learning for E-Commerce Product Classification: Developed a machine learning model that classifies e-commerce products by integrating Natural Language Processing (NLP) and Computer Vision. Extracted insights from product descriptions and images, utilizing pre-trained models for feature extraction and implementing both classic ML and deep learning techniques. Gained hands-on experience in embedding generation, multimodal data preprocessing, and integration, building a robust pipeline for multimodal data classification.
- Credit Risk Analysis: Developed a machine learning model to predict default risk using a large public database of over 400.000 transactions. Applied supervised learning, deep learning, and financial data modeling.

Main Technologies: Python, FastAPI, Streamlit, Scikit-learn, Numpy, Pandas, AWS, Tailwind, TensorFlow, Docker, LangChain, ChromaDB, OpenAI API, and Chainlit.

Product Designer – Helte Co., Ltd   Aug 2024 – Nov 2024

- Documentation and testing of software applications, assisting in product development, and contributing to product enhancement and innovation.
- Focused on developing innovative solutions to enhance user engagement on the platform.
- Contributed to UI/UX improvements, including redesigning the home page to optimize user experience.
- Created and delivered presentations, sharing ideas and insights with colleagues to drive impactful changes.
- Collaborated with the team to brainstorm and implement strategies for attracting more users.

Skills

Agentic Coding & AI Integration: Cursor, Claude Code, Copilot, Codex, Gemini Code Assist, Context Engineering, Prompt Optimization, RLHF, Specialized LLM Agents, MCP Workflows.
Computer Vision & Deep Learning: OpenCV, OpenVINO, TensorFlow, PyTorch, Keras, CNN Architectures, Image & Video Detection, Classification, Segmentation, NVIDIA SDK, TensorRT, Jetson Nano, DeepStream, Data Augmentation, Model Optimization.
Machine Learning / AI: Scikit-learn, Hugging Face, LangChain, Chainlit, Transformers, RLHF, Model Evaluation Metrics, Feature Engineering, MLOps Principles.
Data & Analysis: Pandas, NumPy, SQL, Matplotlib, Seaborn.
Dev & Automation Tools: VS Code, Docker, Git, GitHub Actions, Devcontainers, Postman, Notion.
Deployment & Backend: FastAPI, Flask, Spring Boot, MongoDB, Redis, Airflow, AWS, Railway, Vercel, Docker Containers, Model Serving Pipelines.
Front-end:Next.js, React, Tailwind CSS, Streamlit.
Programming: Python, Java, JavaScript, TypeScript, OOP, Bash.
Agile Methodologies: Scrum, Kanban
Languages: Spanish (Native), English (Advanced – C1), Japanese (Advanced – N2)

Education

UADE   Aug 2023 – Aug 2026
Computer Software Engineering
Anyone AI
Machine Learning Engineer Specialization   Mar 2025

Certifications

Machine Learning Engineer - Anyone AI   2025

EFSET English Certificate C1 Advanced - EF SET   2023

Japanese-Language Proficiency Test N2 (JLPT N2) - JEES   2022

First Certificate in English B2 (FCE B2) - Cambridge   2022