

Antonio Ercole De Luca

Software Engineer

Since 2016, I've held many consulting roles such as Machine Learning Engineer, Data Architect, Data Scientist, DevOps, and Scrum Master. My professional experience spans the entire realm of data management, from data retrieval and storage to the scaling of cloud infrastructure, as well as conducting statistical analysis and data mining operations. My expertise encapsulates the complete data life-cycle, including web scraping, designing relational databases, cloud deployment, managing RESTful APIs, and utilizing Jupyter Notebooks. In 2019, I embarked on a sabbatical of two years to delve into the intricate domains of Statistics and finance. At the onset of my career, I had the opportunity to contribute to two scientific papers focusing on Web Scraping and Data Visualization.

EXPERIENCE

Prosperous AI, Remote - Denver, Colorado - Software Architect

April 2024 - Present

I architected and developed a scalable data pipeline and backend infrastructure for an arbitrage software platform in the commodity market (fuel). Designed load optimization algorithms, REST endpoints, and data transformation pipelines, enabling efficient fuel trading decisions. Managed end-to-end deployment on GCP using Docker, Docker Compose, and CI/CD pipelines, ensuring robust dev/prod environments. Collaborated with CEO and QA to define user stories and led feature implementation, bug fixes, and ML model architecture.

Key Achievements:

Optimized fuel logistics: Developed a load optimization algorithm that reduced human error and fleet costs by prioritizing tank run-out timing and terminal selection, enabling high-tier clients to achieve operational efficiency (100% adoption by their trading teams).

Streamlined data pipeline: Built a dbt/Dagster pipeline to ingest and transform data from 329 stations and 1,000+ tanks, correcting flawed client data to deliver perfect outputs, retaining a high-tier client.

Accelerated feature delivery: Implemented TDD and CI/CD pipelines, reducing deployment errors by 80% and enabling rapid feature rollouts, enhancing sprint efficiency.

Drove client retention: Delivered a Superset dashboard and pipeline for a mid-tier client in two weeks, integrating with Monday.com, ensuring ongoing client satisfaction and retention.

SunnyPlans, Remote - Las Palmas - Entrepreneur

October 2021 - April 2024

My entrepreneurial journey has been marked by innovation and persistence. One of my most validated endeavours is SunnyPlans, a startup dedicated to the strategic selection of lands for solar energy projects, utilizing state-of-the-art algorithms and data-driven insights. In addition to SunnyPlans, my determination to create value and address unmet needs led me to initiate three other ventures now ended:

Developed and launched a Chrome Extension designed to assist in Stable Diffusion prompts creation. This tool quickly gained traction, securing 200 installations within its first month.

Pioneered a project that used Programmatic SEO, driving an impressive initial daily visitor count of 100. Through this venture, I ranked restaurants and sold products by leveraging Sentiment Analysis ([video explanation](#)).

Investing in the financial sector, generating a 40% ROI over a span of two years. I managed a portfolio of Exchange Traded Funds (ETFs) by adopting a Bayesian time series forecasting algorithm to analyze their historical pricing data.

Aquaticode, Remote - Software Engineer

January 2023 - June 2023

At Aquaticode, a technology startup focused on optimising food production, I played a crucial role in enhancing a complex, real-time, and parallel software system operating on Windows. This software was initially developed by another team, requiring deep troubleshooting and problem-solving skills to understand and improve it. My primary responsibilities included functionally analyzing existing features, and then replacing them with more straightforward and more efficient versions. These strategic improvements not only increase the system's overall efficiency and usability but also directly contributed to Aquaticode's mission of reducing food production costs.

Molo Finance, Remote - London - Software Engineer

February 2022 - April 2022

Played an instrumental role in launching a digital platform offering residential mortgages to UK customers. Participated in a team effort towards code-base refactoring, environment setup (local/test/production), implementing backwards-compatible changes to the RESTful API, and bug fixes.

SKILLS:

Python
Docker
Django
Postgres
Google Cloud
AWS
Bash
Airflow
Optuna
Pytorch
CUDA
Mlflow
Pandas
Prophet
Scrum
Selenium
SQL
TDD
Javascript
React
HTML
C

LANGUAGES

English
Spanish
Italian

Open-Source:
[Linkedin](#)
[Dash](#)
[financial-dagster](#)
[dbt-lab](#)

Personal Projects:

[sunnyplans.com](#)
[write-ai-art-prompts.com](#)

ORGANIZER

PyData Las Palmas
Python Meetup Palermo

Contacts:

eracle@posteo.eu

[World Food Program](#), Remote - Rome - Software Engineer

March 2021 - October 2021

Spearheaded a team of over 10 engineers, promoting Scrum adoption and implementing effective practices like daily stand-ups. Guided junior developers in homogenizing testing practices in line with agreed internal TDD coding standards. Identified and reported accrued technical debt from past designs. Led a team of Quality Assurance Engineers to establish the groundwork for end-to-end automated testing.

[Upwork](#), Remote - Freelance Software Engineer

2017 - 2019

Collaborated with more than ten international clients via Upwork.com, consistently maintaining a median feedback score of 5/5 stars. Key achievements include: Engineering an image similarity search engine with virtually no response time, and indexing over 40k images using an Approximate Nearest Neighbors data structure. It minimized a client's cloud infrastructure costs to zero by migrating a Django app and its relational database from Digital Ocean to Google Cloud Platform (GCP) via Docker and Docker-compose. Constructed a Django app with 83% testing coverage, applying Test Driven Development.

[Kiwi Campus](#), Berkeley, US - Software Engineer

2017

I developed a platform integrating a supplier's API, successfully processing over 2k food delivery orders in less than two months.

[Legalkite](#), Remote - Zurich - Backend Engineer

2016 - 2017

Contributed to the design of various RESTful endpoints. Amplified the REST API response time tenfold by converting Django ORM queries into raw SQL queries. Addressed data inconsistency issues by refactoring a relational database schema and making Elasticsearch a read-replica. Scaled a data scraping module by a factor of 100x by porting it to Scrapy and Scrapinghub.

[SpazioDati](#), Pisa, Italy - ML Engineer Intern

2015 - 2016

Developed a Human-in-the-loop Active Learning workflow using a crowdsourcing platform's API named CrowdFlower. Improved the F1-score of a Logistic Regression model used for Named Entity Linking by 2x, applying a technique called Uncertainty Sampling.

[Synthema](#), Pisa, Italy - Software Developer

2014 - 2015

Operationalized several steps in Natural Language Processing (NLP) like Segmentation, Tokenization, POS, Stop Words, Dependency Parsing, and NER for various languages including Romanian, Japanese, Chinese, and German. Contributed to an EU-funded (5.6 Mln €) project named CAPER.

EDUCATION

Computer Science - Bachelor's Degree

University of Pisa, Italy

2007 - 2010

Thesis on Natural Language Processing: Document classification using lexical and semantic resources.

Data Science and Business Informatics - Master's Degree

University of Pisa, Italy

2011 - 2013

Thesis on Natural Language Processing: Applying Active Learning on Entity Linking.

Statistics & Data Science - Bachelor's Degree

University of Palermo, Italy

2019 - 2020

Financial Mathematics, Finance Theory, Multivariate Analysis, Inference, R Language, Probability.