

# Antonio Ercole De Luca

## Software Engineer

I have worked as a consultant since 2016 in different roles: Machine Learning Engineer, Data Architect, Data Scientist, DevOps, and Scrum Master. I have worked on all aspects of data management: retrieval, storage, cloud infrastructure scaling, statistical analysis and data mining. Following the entire data life-cycle: web scraping, design of relational databases, cloud deployment, RESTful API and Jupyter Notebooks. In 2019 I took a couple of sabbatical years to investigate Statistics & Finance. I also contributed to two scientific papers on Web Scraping and Data Visualization.

### EXPERIENCE

#### [Aquaticode](#), Remote— Software Engineer

January 2023 - June 2023

At Aquaticode, a technology startup focused on optimising food production, I played a key 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 simpler 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.

#### Self-employed, Remote— Entrepreneur

October 2021 - January 2023

I independently spearheaded three projects: Launched a Chrome Extension aiding Stable Diffusion prompts creation, garnering 200 installations within a month of its debut. Leveraged Programmatic SEO to drive an initial count of 100 daily visitors, ranking restaurants and sold products via Sentiment Analysis ([video explanation](#)). Generated a 40% ROI over two years by holding a portfolio of Exchange Traded Funds (ETFs), chosen using a Bayesian time series forecasting algorithm applied to their historical pricing data.

#### [Molo Finance](#), Remote/London — Software Engineer

January 2022 - June 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.

#### [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.

#### Consultant, Remote — 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. 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

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

### SKILLS:

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

### LANGUAGES

English  
Spanish  
Italian

### Open-Source Contributions:

[Linkedin](#)

[Dask](#)

### Personal Projects:

[write-ai-art-prompts.com](#)  
[where2buy.it](#)  
[where2invest.in](#)

### ORGANIZER

## [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.

## Contacts:

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