

SENIOR SOFTWARE ENGINEER

Giunio De Luca

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My professional experience as a software engineer spans across research, sports, and energy sectors, working with both public and private organizations.

My expertise includes robust API development, and I am the author of:

[FastAPI Cookbook \(Packt Publisher\)](#).

Check my latest public project at [RAG powered chatbot](#), where I put at work a complete AI solution from scratch to 100 users per week on peak period, live at [rag.avenueit.be](#)

SKILLS

- Clean-code, Clean Archi
- Test-driven development
- Design Patterns
- SOLID principles
- Python
- Cloud Computing
- Docker
- HTML, JavaScript and CSS
- Git best practices
- Dev-Ops
- Concurrency programming
- Strategic refactoring

WORKING EXPERIENCE

08/2025 - 12/2025 SOFTWARE ENGINEER, BELGIAN POLICE BRUSSELS, BELGIUM - CONTRACT
Working for a highly confidential project for national security

- Tech stack used: [Django Rest Framework](#), [Postgresql](#)

06/2024 - 07/2025 FULL STACK DEVELOPER ENGIE SA LINKEBEEK, BELGIUM - CONTRACT
Engie SA is French big corporate in the energy field and part of CAC40 stock index.

I joined the Research & Innovation division in Flanders region in Belgium to develop company applications and provide IT support to researchers. In this role accomplished the following tasks:

- Supporting and guiding data scientists in deploying ML models from Notebooks to packaging
- Develop and maintain a complete application (backend in [FastAPI](#), frontend in [React](#), geospatial data with [xarray](#), [numpy](#) and [pandas](#), and [MongoDB](#) for data storing)
- Introducing test driven development on the frontend with [vitest](#)
- Setup team [cookiecutter](#) templates to streamline delivery process and development

01/2025 - 06/2025 PYTHON COACH (PART TIME), TEKNO FAMILY BRUSSELS, BELGIUM
Tekno Family is a charity organization that promotes coding education programs to teenagers who grew up in difficult Brussels neighborhoods. I was coach for the afterwork course Data Science with Python (30 hours)

03/2024 - 06/2024 TECHNICAL AUTHOR, PACKT PUBLISHER COPYRIGHT CONTRACT
Packt Publisher is a major editor and e-learning provider in the tech industry worldwide. I have been the author of the book "[FastAPI Cookbook](#)". The cookbook aims to be a reference for developers that need to build robust applications with [Python](#) to support high traffic interactions.

It covers all the knowledge required by a back-end developer to deliver modern, secure and efficient API.

Some of the recipes cover:

- connecting applications to [SQL](#) ([SQLite Postgres](#)) and NoSQL ([MongoDB](#)) databases.
- Securing endpoints with [OAuth2](#).

- Benchmarking and profiling FastAPI applications.
- Exposing LLM models and [RAG LLM](#) applications.
- Setting up [WebSocket](#) and securing practices.

The book is available on the major stores here is the [AWS Link](#).

The book has earned top rankings in several BookAuthority organization lists, including:

[3rd in Best FastAPI Books of all time](#), [5th New Api Development Book](#)

04/2023 - 03/2024 PYTHON DEVELOPER, CORESO BRUSSELS, BELGIUM - CONTRACT

Coreso is one of the regional coordination centers for European Transmission System Operators, responsible for the Southwestern Europe borders.

I joined the Internal Software Development (ISD) team to work on the development of web applications to support energy trade operators in their daily work.

In this role, I accomplished the following task:

- test-driven development ([pytest](#) dependency injection and test parametrization)
- Setup Integration testing.
- Event driven programming ([Kafka](#)).
- Setting up Database management with Postgres.
- Backend development with [FastAPI](#) (Django-like framework for backend).
- Basic Front-end development with [Vue JS](#), [Javascript](#), [HTML](#) and [CSS](#).

10/2022 - 03/2023 PYTHON SWE GORILLA ANTWERPEN, BELGIUM - FULL TIME

Gorilla is developing a data-driven platform for energy retailers.

The company aims to empower energy retailers with solutions for pricing, forecasting, and reporting.

I joined the team to contribute to the back-end API of their SaaS platform.

In this role, I executed the following tasks:

- defining features for the back-end API ([Python](#)) with in-house framework
- Managing database migrations with [alembic](#) library.
- Refactoring and improving legacy code.

09/2020 - 09/2022 PYTHON SWE, ROYAL BELGIAN FOOTBALL ASSOCIATION BELGIUM

Royal Belgian Football Association is the governing body of football in Belgium.

As a Software Engineer within the organization, I worked on several cloud-based projects.

One of the projects I contributed to the development of the backend of the official [app](#).

Overall, I carried on with the following tasks (partial list):

- Implement comprehensive testing, including unit tests, integration tests with [pytest](#) and [Behave](#), and performance analysis to guarantee software quality and performance.
- Design, develop and deploy data ingestion pipeline solutions to select the national team.
- Guide and mentor 5 internships to drive skills transfer and growth.

During my period working at RBFA, I contributed to winning the [2021 UEFA GROW AWARDS](#) for the digital strategy, awarded by Louis Figo.

11/2015 - 06/2020 RESEARCHER, LABORATOIRE EM2C Gif-Sur-Yvette, FRANCE

The EM2C laboratory, a CNRS (National Center for Scientific Research) unit and a laboratory of CentraleSupélec, combines academic research with applied studies in the fields of transportation and energy.

I have been hired to work on the [Clean-gas project](#) of the European Commission.

During my work, I carried out the following main tasks:

- Model and implement combustion phenomena in HPC parallel code in [Fortran90](#)
- Develop data pipelines development with [Pandas](#), [NumPy](#), [Matplotlib](#), [SciPy](#)

The work culminated in a published manuscript, which can be found at the following [link](#).

EDUCATION

PHD

DOCTOR IN ENERGETICS, SPECIALISATION IN COMBUSTION SIMULATION

École CentraleSupélec, Gif-sur-Yvette, France

Graduation 06/2021

POST-GRADUATE RESEARCH MASTER

NUMERICAL AND ENVIRONMENTAL FLUID DYNAMICS

Von Karman Institute, Sint-Genesius-Rode, Belgium

Graduation 06/2015

MASTER DEGREE

INDUSTRIAL ENGINEERING

University of Basilicata, Potenza, Italy

Graduation 04/2014

PROFESSIONAL TRAINING COURSE FOR EXECUTIVES

JAVA AND JEE

Inti Formation, Paris, France

October to December 2019

CERTIFICATIONS

Kubernetes and Cloud Native Associate 05/2023

Google Cloud Certified Professional Security Engineer 03/2023

Google Cloud Certified Professional Network Engineer 02/2023

Google Cloud Certified Associate Engineer 04/2021

SPOKEN LANGUAGES

English fluent

French bilingual

Italian native speaker

Dutch basic knowledge