Simone Testino

I study mathematical logic and develop financial software. I am interested in proving that pricing algorithms satisfy the assumptions of their financial models.

CONTACT

Contact Simone
Finance and enterprise

LANGUAGES

Italian Native
English C1
German C1

PROFILES & WEBSITES

GitHub
LinkedIn
simonetestino.pages.dev

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Verifying financial models

In a Python and NumPy pricer for Bermudan puts, I used the Fourier–cosine method to work backwards through the exercise dates. At each date the algorithm chooses between exercising and waiting. My question is what a faster implementation must preserve at that decision.

Computational Finance, Mastermath · Project on Fourier–cosine option pricing. Oral examination pending.

A research question for Bologna

In my planned six-month research project at the University of Bologna (January–July 2027), I aim to apply Lean 4 and Isabelle/HOL to financial models. I would like to formalise a discrete pricing model and prove that adding an exercise date cannot reduce an option's value, with the tree and discount factors held fixed.

> That property gives the Python implementation a concrete test. With floating-point arithmetic I would also measure rounding errors near the exercise boundary and benchmark any speedup.

Grant advisory and investment

Two investment awards

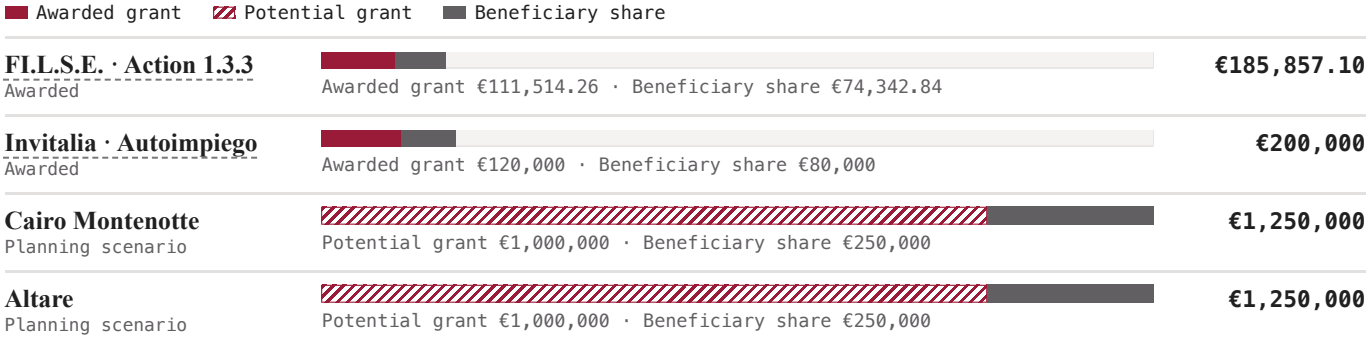
I began developing the venture in June 2025 and prepared two grant applications: FI.L.S.E. for my sole proprietorship and Invitalia for ColivingLiguria S.r.l. In both decisions the cash grant covers 60% of the approved investment.

Municipal engineering proposals

I helped prepare engineering proposals for energy upgrades in Cairo Montenotte and Altare. Both municipalities have planning scenarios. Neither proposal was submitted.

Grant awards and municipal scenarios

Common scale · EUR



For each municipality, €1.25m is the planning assumption: an 80% eligible grant at the €1m cap would leave €250k to finance. Project costs, eligibility and municipal contributions await confirmation. Funding rules.

Cash grants follow the award decisions. The additional €5,000 in Invitalia tutoring is a service.

Academic background and research

2024–present
Amsterdam

University of Amsterdam · Institute for Logic, Language and Computation

MSc in Logic

My coursework includes proof theory, mathematical proof methods for logic and structures for semantics.

Study pace. I completed the taught courses for the two-year MSc in one academic year. In Munich I finished the philosophy degree and most of the mathematics coursework in two academic years of concurrent study.

LMU München

BSc in Mathematics

Degree in progress. My thesis was assessed in December 2024. I studied model theory, algebra and measure theory in German.

LMU München

BA in Philosophy

Awarded July 2024, with Mathematics as a minor. My thesis studied syntactic structures in language and mathematical logic.

Mechanising Structuralism · MSc thesis in progress

My thesis concerns translations between formal theories. My initial private Isabelle/HOL encoding covers first-order terms, formulas and translations of predicate symbols. I am studying the assumptions under which such a translation preserves the meaning of a statement.

Financial data systems

ColivingLiguria SRL · Founder and software developer · Company incorporated March 2026

Financial Register · Python and SQL

My Python and SQL ledger links each transaction to a dated source. Ledger design and worked example.

Refundable deposit

Paying a refundable deposit reduces cash and creates a recoverable asset. Recording both reconciles the cash forecast with the balance sheet.

An invoice paid in instalments

In my worked example, two payments of €50 and €70 settle a €120 invoice. Each reconciles to its bank entry. The liability is recognised once.

I store amounts in integer cents and give each entry a source identifier. The example shows where an expense is first recognised, what remains payable after each settlement, and which entries change the bank balance.

Living Register — I model stays and operational records so that an amount can be traced back to the booking that generated it.

Business Register — I link projects, counterparties and decisions so changes to a budget can be traced to the underlying work.

Document automation — Python adapters populate LaTeX templates from approved records. An operator can correct the source and regenerate the document.

Technical skills

Python	■■■■■■	Financial data pipelines and backend services.
LaTeX automation	■■■■■■	Generation of financial documents from approved records.
SQL	■■■■■□	Relational queries and traceability in SQLite and SQLCipher.

Learning in progress · Lean 4 · Isabelle/HOL · Rust · Aeneas

I am exploring Aeneas for reasoning about Rust programs in Lean. I plan to publish examples on GitHub and my website.