

Luca Nicoli, *PhD*

CRYPTOECONOMIST · RESEARCH SCIENTIST · PROTOCOL DESIGNER

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01 SUMMARY

Research Scientist at [CryptoEconLab](#) specializing in cryptoeconomic mechanism design, sustainable tokenomics, and incentive systems for decentralized networks. I combine game theory, formal modeling, and production-oriented software development to build and evaluate mechanisms for Web3, DeFi, and public goods. Holding a PhD in Theoretical and Computational Chemistry, my background spans advanced mathematical modeling, machine learning, and complex systems.

02 EXPERIENCE



Research Scientist – *CryptoEconLab*

CURRENT

Mechanism Design & Tokenomics. Design and analyze incentive structures, issuance schedules, redemption mechanisms, collateral systems, and value-accrual dynamics for Web3 protocols, optimizing for sustainability, incentive compatibility, and mechanism robustness. Relevant work: [Cryptoeconomics of Revnets](#).

Protocol & Network Economics. Model value flows, fraud games, staking/slashing conditions, dispute incentives, and collateral requirements for ecosystem actors. Relevant work: [Hellas Economic Analysis](#).

Research Software Engineering. Designed and developed [EconoLens](#), an mcp-based conversational tool for Filecoin economic forecasts, and [AutoCap](#), an activity-based DataCap allocation mechanism, translating formal economic models into practical research tools and decision-support workflows.

Public Goods & Applied Research. Authored technical research on public goods funding, impact evaluation, ZK challenge design, and mechanisms for evaluating and rewarding measurable contributions in decentralized ecosystems. Relevant work: [Impact Evaluators for Public Goods](#) and [TIG ZK Challenge](#).



MEV Scientist Engineer – *Urani.trade*

PREVIOUS

Team Agents · Repo [solana-mev-agent-py](#)

MEV Mitigation & DeFi. Developed intent-based solvers to reduce toxic MEV at the application layer on Solana.

Protocol Engineering. Engineered complex DeFi routing, intent matching, and solver-based execution mechanisms.



Founder – *MatTwins*

PREVIOUS · R&D VENTURE · 2023

Scientific Machine Learning. Designed ML surrogate models and applied high-performance simulation to accelerate sustainable materials discovery.

03

EDUCATION

PhD, Theoretical & Computational Chemistry *cum laude*

Scuola Normale Superiore — Pisa, Italy

MSc & BSc, Engineering Physics

Politecnico di Milano — Milan, Italy

04

SKILLS

Cryptoeconomics & Web3

Tokenomics, mechanism design, incentive compatibility, staking/slashing, public goods funding, DeFi, MEV, intent solvers, L1/L2 ecosystems, Filecoin, Solana, ZK systems.

Quantitative Research

Game theory, mathematical modeling, simulation, optimization, network theory, complex systems, rational actor modeling.

Programming & Engineering

Python, Rust, C, Fortran, SQL, Docker, Poetry, Git, FastAPI, React, Next.js, high-performance computing.

Machine Learning

Neural networks, LSTM, reinforcement learning, LLM-based tools, surrogate modeling.

05

LEADERSHIP &
COMMUNITY

Editorial Board Member — [Recerts](#)

Peer-reviewed journal focused on mechanism design for public goods and impact verification.

Co-Founder & Admin — [Traent Hub](#)

Tech and innovation hub of Pisa, supporting the local ecosystem through networking and knowledge sharing.

06

SCIENTIFIC OUTPUT

10 Journal articles — [Google Scholar](#) ↗

1 International patent — [WIPO](#) ↗

5 International conference talks