Luca Donno

WORK EXPERIENCE

01/05/2023 – CURRENT Remote, Italy
BLOCKCHAIN RESEARCHER L2BEAT

Research and analysis of blockchain scaling solution risks, mainly focusing on Ethereum rollups and bridges. Contributions include the Stages Framework, the Upgradability of Ethereum L2s report funded by Polygon and Security Council designs.

15/12/2022 – CURRENT Remote, Italy
SMART CONTRACT DEVELOPER SUPERRARE

Conceptualized and developed a Decentralized Autonomous Education (DAE) implementation, a learning model based on Web3 principles and applications such as Soulbound NFTs, Karma points, and a game theoretical model that aims at decentralization. The model is currently used for the Data Science course and Digital Laboratory in University of Udine. Funded by the NFT art gallery Superrare.

2018 – CURRENT Remote, Italy
DIGITAL ARTIST

Generative and minimal cryptoartist, mainly on Ethereum (Art Blocks, KnownOrigin) and Tezos. Artworks have been featured at the Dreamverse event in Terminal 5 New York, Museo della Permanente in Milan and Galleria Cristiani in Turin. Artworks have been commissioned by the Metapurse investment fund and BlockWallet.

12/2022 – 03/2023 Remote, Italy
SMART CONTRACT DEVELOPER KJOSUL

Development of a NFT project for a Kjosul's client. It includes batch minting, royalties splitting, sale contracts and expiration management.

15/06/2022 – 30/11/2022 Remote, Italy
SOFTWARE DEVELOPER ART INNOVATION GALLERY

Development of a NFT aggregation platform focused on cryptoart galleries.

17/10/2021 – 14/12/2021 Remote, Italy
SOFTWARE DEVELOPER NIFTYVALUE

Analysis of Art Blocks NFT gallery smart contracts and modelling using Ruby, Ruby on Rails and Postgresql to prepare data for machine learning jobs to provide artworks valuations and devise investment portfolios, as well as to facilitate the discovering of new artworks and artists. Reverse engineering of the bytecode of unverified smart contracts. Implementation of a job to fetch transactions using Etherscan API to update the database.

EDUCATION AND TRAINING

09/2022 – CURRENT Bologna, Italy
MASTER DEGREE University of Bologna

Field of study Computer Science

2018 – 2022 Bologna, Italy
BACHELOR DEGREE University of Bologna

Field of study Computer Science | **Final grade** 110 Cum Laude |

Thesis Optimistic and Validity Rollups: Analysis and Comparison between Optimism and StarkNet

2013 – 2019 Rimini (RN), Italy
DIPLOMA ITTS Belluzzi - Da Vinci

Address Via Ada Negri, 34, 47923 , Rimini (RN), Italy | **Field of study** Information and Communication Technologies]

Final grade 100/100

• ADDITIONAL INFORMATION

PROJECTS

04/2022 – CURRENT
scalability.guide Blog articles about blockchain scaling technologies.

Link https://scalability.guide/

11/2022
inclusion.watch Tool to check the inclusion probability for non OFAC compliant transactions on Ethereum.

Link https://www.inclusion.watch/

07/2023
Axelrod Iterated prisoner's dilemma tournaments smart contract written in Cairo for the Starknet blockchain. Winner of the MatchboxDAO first hackathon.

Link https://github.com/lucadonnoh/axelrod

07/2022
Graphiro A graph library contract written in Cairo for the Starknet blockchain. Funded by StarkWare.

Link https://github.com/lucadonnoh/graphiro

06/2022
StarkBlocks Generative art NFT contracts written in Cairo for the Starknet blockchain.

Link https://github.com/lucadonnoh/starkblocks

07/2021 – 11/2022
zang.gallery zang is a text-focused NFT platform built on Polygon and Optimism.

Link https://zang.gallery

PUBLICATIONS

Optimistic and Validity Rollups: Analysis and Comparison between Optimism and StarkNet – 2023
This paper explores the scalability issue in decentralized blockchains, particularly focusing on the trade-off between transaction throughput and node hardware requirements. Through a comparative analysis of Optimistic Rollups and Validity Rollups in the Ethereum ecosystem, it investigates different aspects like withdrawal time, transaction costs, and optimization methods. The findings reveal notable gas and storage write cost compression rates achieved by Optimism Bedrock and StarkNet, highlighting the critical trade-offs between complexity and agility in choosing between the two Rollup technologies.

Luca Donno - DLT 2023: 5th Distributed Ledger Technology Workshop

ERC-5375: NFT Author Information and Consent – 2022
ERC-5375 is an extension of ERC-721 that standardizes a JSON format for storing off-chain information about NFT authors. Specifically, it adds a new field which provides a list of author names, addresses, and proofs of *authorship consent*: proofs that the authors have agreed to be named as authors.

Luca Donno, Samuele Marro

Green NFTs: A Study on the Environmental Impact of Cryptoart Technologies – 2021
"Green NFTs: A Study on the Environmental Impact of Cryptoart Technologies" is a paper written by Samuele Marro and Luca Donno, with the help of Giuseppe Pignataro (Professor of Microeconomics and Political Economy at University of Bologna). It analyzes the impact of both individual transactions and the Ethereum blockchain as a whole. It also describes several solutions to help cryptoartists reduce their emissions. While our model is designed with cryptoart in mind, it can be easily applied to other areas, such as decentralized finance and games.

Samuele Marro, Luca Donno