Héctor Masip

Mathematician, Cryptographer & Blockchain Enthusiast

- March 18, 1997
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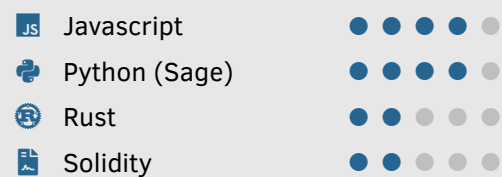- lecter1729@gmail.com
- Spanish

Social Networks

- LinkedIn
- Twitter
- GitHub

Languages

Spanish

Catalan

English

Coding Skills

- Javascript ● ● ● ● ○
- Python (Sage) ● ● ● ● ○
- Rust ● ● ● ○ ○
- Solidity ● ● ● ○ ○

Working Experience

2021 – Pres. **PhD Student** Universitat Politècnica de Catalunya (UPC)
The intended focus of my thesis is the use of zero-knowledge proofs in non-explored scenarios, with the aim of providing scaling solutions. In particular, a major part of my thesis will be devoted to zkEVM research.

2021 – 2021 **Research Staff Member** Universitat Politècnica de Catalunya (UPC)
Participation in the ARPASAT project as a research member.

2020 – 2021 **DevOps Architect** Hardapps
Helping to implement a middleware to make efficient registries on Ethereum.

2020 – 2020 **Collaboration Agreement** ISG & Codegram
Collaboration with the research group Information Security Group (ISG) from UPC, and the consultancy Codegram for the analysis, study and implementation of a post-quantum e-voting protocol.

Education

Study

Sum. 2022 **0xPARC Summer Residency** New York
Assited to the 0xPARC summer residency.

2019 – 2020 **MAMME** Universitat Politècnica de Catalunya (UPC)
Master's degree in Advanced Mathematics and Mathematical Engineering (MAMME), with focus on discrete mathematics.
In particular, I acquired interest in cryptography, complexity theory and distributed ledger technologies (DLTs).

Master Theses Universitat Politècnica de Catalunya (UPC)
Linkable attribute-based signature scheme.

2015 – 2019 **Bachelor of Mathematics** Universidad de Alicante (UA)
Bachelor of Mathematics with focus on data analysis and applied algebra.
In particular, I acquired interest in cryptography, coding theory and game theory.

Bachelor Theses Universidad de Alicante (UA)
Estudio empírico del problema del subgrafo isomorfo.

Courses

July 2019 **Language Immersion Course** Valencia
Scholarship granted by the Spanish government and the Universidad Internacional Menéndez Pelayo (UIMP) grant.

July 2019 **Machine Learning** Online
Coursera.

August 2018 **Cryptography II** Online
Coursera.

July 2018 **Cryptography I** Online
Coursera.

Awards & Grants

2021 – Pres. **FI SDUR 2021** GenCat
Granted by the Catalonia Community.

2021 **Master Thesis Honorable Mention** LTQ Awards
Premio Leonardo Torres Quevedo 2020 en Criptología y Seguridad de la Información.

Publications

2022	**PlonKup: Reconciling PlonK with Plookup**	IACR
	Paper can be found at `https://eprint.iacr.org/2022/086`.	

Conferences

April. 2022	**Devconnect**	Amsterdam
	Assisted to various Devconnect event.	
March. 2022	**INITCTEL-UNI**	Perú
	Blockchain presentation.	
March. 2022	**CRN m2022**	Lleida
	Research presentation at the Cybersecurity Research Network meeting.	
Dec. 2020	**BYMAT 2020**	Valencia
	Third BYMAT conference: bringing young mathematicians together (BYMAT).	
July 2019	**ICIAM 2019**	Valencia
	The International Council for Industrial and Applied Mathematics (ICIAM).	

Teaching Activities

2022	**Cryptography**	Universitat Politècnica de Catalunya (UPC)
	Introduction to zkSNARKS, including PlonK, Plookup and FRI.	
2021	**DeFi**	Universitat Politècnica de Catalunya (UPC)
	Some classes about DeFi and Stablecoins.	
2021	**Cryptography**	Universitat Politècnica de Catalunya (UPC)
	Introduction to zkSNARKS, including PlonK, Plookup and FRI.	