Imane **El Abid**

BLOCKCHAIN RESEARCHER · NETWORK ENGINEER

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Summary

PhD candidate specializing in Blockchain technology and Distributed trust systems, graduating in January 2026. My research focuses on improving the scalability, privacy, and robustness of decentralized networks, which has led to key contributions in developing lightweight, privacy-aware blockchain solutions. Published work presented at high ranked IEEE and Elsevier journals and international conferences. Skilled in Python, Java, and distributed systems development, with a strong foundation in cryptography, networking.

Skills

Programming	Python, Java, C, Solidity, Scala.
Networking & Security	TCP/IP, VoIP & QoS, Network programming, SDN & virtualization, Cryptography, PKI, ZKPs.
Distributed Computing:	Blockchain, P2P systems, Consensus Protocols, Byzantine Fault Tolerance.
Tools & Platforms:	Git, LaTeX, Docker, Numpy, Pandas, Scikit-Learn, VMware, VSphere, GN3, MATLAB, Mininet.
Languages	*Arabic, English, French, Japanese.*

Education

University Mohammed VI Polytechnic, (UM6P) · *BenGuerir, Morocco*
PhD Candidate, College of Computing · *Expected Jan. 2026*
Thesis: *Toward Scalable and Privacy-Aware Blockchain Integration with Resource-Constrained Devices.*

University Mohammed VI Polytechnic, (UM6P) · *BenGuerir, Morocco*
Predoctoral Studies, DNA Program · *2018 - 2019*
Intensive predoctoral program focusing on Data, Networks, and Algorithms (DNA).

National School of Applied Sciences, (ENSA) · *Marrakech, Morocco*
Network & Telecommunication Engineer · *2012 - 2017*
Specialized in: Network Design & Security, Wireless Communications, Network Virtualization and Distributed Systems Fundamentals.

Work Experience

College of Computing (UM6P) · *Benguerir, Morocco*
Doctoral Researcher (PhD) · *Oct 2019 - Dec 2025*
- Led doctoral research addressing core distributed systems problems, building solutions for fault tolerance and scalability within privacy-aware blockchain architectures.
- Developed a lightweight, *scalable consensus* mechanism that maintains high throughput ensuring fairness, decentralization and secure asset transfers on *mobile devices*.
- Design and Development of an extensible benchmarking framework for *Redactable Blockchain* techniques.
- Designed a lightweight blockchain framework that achieves secure consensus through a novel combination of *Byzantine Reliable Broadcast* and a *Proof-of-Bandwidth reputation system*.
- Published findings across several peer-reviewed articles, published in highly-ranked journals and international conferences.
- Developed strong expertise in distributed systems, cryptography, and consensus through analysis and prototyping.

Mobilinfo · *Casablanca, Morocco*
Research Intern · *Jan. 2017 - Jun. 2017*
- Studied state-of-the-art solutions for consistent updates in *Software-Defined Networking* (*SDN*) architectures.
- Conducted in-depth protocol analysis across various network infrastructures, including *IoT*, *WSN*, and *NFC*

Data Embassy · *Marrakech, Morocco*
Intern · *Jun. 2016 - Aug. 2016*
- Configured and optimized *Asterisk IPBX* telephony servers using *SIP* and *H.323* protocols.
- Developed a comprehensive backup solution for Asterisk systems, leveraging failover and mirroring for high availability.

Menara Marrakech Airport · *Marrakech, Morocco*
Intern · *Jun. 2015 - Jul. 2015*
- Administered a *Windows Server 2012* environment, utilizing *Active Directory* to manage user permissions and access control.
- Managed *Exchange mail services* and implemented a robust automated backup schedule to maintain data security.

Projects

Paxos-based blockchain prototype
Design of a blockchain prototype utilizing Paxos consensus.   *2019*
- **tech:** Blockchain, Paxos Algorithm, Python

IBE-based Data Deletion Protocol for Cloud
Design and implementation of an IBE protocol ensuring secure data deletion in cloud environments.   *2018*
- **tech:** Java, Identity-Based Encryption (IBE), Cloud APIs, Security Protocols.

Secure P2P Chat Application
Developed a secure P2P chat app with Python, implementing end-to-end encryption over direct socket
connections.   *2018*
- **tech:** Python, Sockets, Cryptography

Distributed KNN
Designed and implemented a distributed K-nearest neighbor (KNN) algorithm.   *2018*
- **tech:** Java, Distributed Computing

Consistent Updates in Software-Defined Networks (SDN)
Study of state-of-the-art solutions for consistent updates in SDN architectures for dynamic and
fault-tolerant network updates.   *2017*
- **tech:** OpenFlow, Python, SDN Controllers.

Study of QoS-aware routing algorithms in Cognitive Radio Networks.
Simulation of algorithms for optimal resource allocation in cognitive radio networks.   *2017*
- **tech:** Cognitive Radio Networks, MATLAB, Optimization Algorithms.

5G SC-FDMA Simulation
Study and simulation of SC-FDMA uplinks in LTE networks under various conditions.   *2016*
- **tech:** MATLAB, LTE Protocols, Signal Processing.

Conferences & Workshops

2024	**IEEE Dapps**, IEEE International Conference on Decentralized Applications and Infrastructures	*Shanghai, China*
2024	**UM6P Science Week**, Mohammed VI Polytechnic University	*BenGuerir, Morocco*
2023	**SRDS**, International Symposium on Reliable Distributed Systems	*Marrakesh, Morocco*
2023	**IWCMC**, IEEE International Wireless Communications and Mobile Computing	*Marrakesh, Morocco*
2022	**AMLD**, Applied Machine Learning Days Africa	*BenGuerir, Morocco*
2022	**JDD'22**, UM6P Doctoral Day	*BenGuerir, Morocco*
2021	**NETYS**, International Conference on Networked Systems	*Marrakesh, Morocco*
2021	**ICBC**, IEEE International Conference on Blockchain and Cryptocurrency	*Sydney, Australia*
2021	**JDD'21**, UM6P Doctoral Day	*BenGuerir, Morocco*
2019	**METIS**, International Spring School on Distributed Systems	*Marrakesh, Morocco*
2019	**NASMA**, North African Machine Learning Summer School	*BenGuerir, Morocco*

Publications

Beyond Immutability: A Comprehensive Review of Redactable Blockchain Systems   *Under Review*
El Abid, I., Boubouh, K., Benkaouz, Y.   *2025*

PocketChain: Redefining Blockchain Integration With Resource-Constrained Devices   *FGCS*
El Abid, I., Boubouh, K., Benkaouz, Y.   *2025*

A Comparative Analysis of Blockchain Redaction Techniques   *IEEE DAPPS*
El Abid, I., Benkaouz, Y.   *2024*

LighTx: a lightweight transactions transfer system   *ICBC*
El Abid, I., Benkaouz, Y.   *2021*

LighTx: A Lightweight Proof-of-Bandwidth Transactions Transfer System   *NETYS*
El Abid, I., Benkaouz, Y., Khoumsi, A.   *2021*