

# Alexandru Andrei Colacel

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## Personal Profile

Computer Science graduate from "La Sapienza" University of Rome with a strong passion for Software Development, Blockchain, IoT, and Cybersecurity. My thesis focused on building a Trusted Execution Environment (TEE) compatible with the Ethereum Virtual Machine, emphasizing privacy and security with Solidity, Go, and Docker. Currently working in IoT development, I continue to deepen my expertise in secure and scalable systems.

## Experience

### Lutech S.p.A [🌐]

Rome, IT

IoT Software Engineer & Site Ambassador

October 2023 – Present

- Main Experience:** Development of IoT software with a strong focus on bug fixing and designing efficient solutions. Improved performance of existing code and introduced new AWS components with a cost-optimization mindset.
- Conduct **Unit Testing** and **Random Testing** to ensure code reliability and uncover edge-case issues early in development.
- Managed **Cybersecurity-related tasks**, integrating security into development workflows and supporting cloud infrastructure protection.
- Collaborate closely with multiple teams: **PMO, Project Managers, clients, Front-End, Testing, and AMS teams** to ensure smooth project execution and communication.
- Actively served as a **Site Ambassador**, facilitating team communication, promoting corporate initiatives, and contributing to company culture.
- Technical Skills:** Python, AWS Cloud, AWS Lambda, ElasticSearch, AWS WebSocket, API Gateway, AWS DynamoDB, Linux tools, Scripting, Git, Jira, Confluence, BitBucket.
- Soft Skills:** Teamwork, Time Management, Communication, Presentation skills.

## Education

### Master's Degree in Cybersecurity

Rome, IT

University "La Sapienza"

September 2024 - Ongoing

- Courses:** Cryptography, Network Infrastructures, Distributed Systems, Statistics, Cyber and Computer Law, Ethical Hacking, Malware Analysis and Incident Forensics, Security Governance, Practical Network Defense, Secure Computation, Internet of Things, Blockchain and Distributed Ledger Technologies, Machine Learning.

### Bachelor's Degree in Computer Science

Rome, IT

University "La Sapienza"

October 2020 - March 2024

- Thesis Title:** TEE-based execution of Smart Contracts.

## Personal Projects

### Chess Analysis

Rome, IT

La Sapienza University

May 2023 – June 2023

- Chess Analysis Project:** Developed tools for chessboard and move recognition using Python, OpenCV, NumPy, and L<sup>A</sup>T<sub>E</sub>X.

### Smart House

Rome, IT

Personal Project

Jan 2024 – Ongoing

- Designed and continuously evolving **IoT web application** for smart home monitoring and automation.
- Built with a modern stack: **Python, Flask, Docker, PostgreSQL, MongoDB, Redis, Raspberry Pi**.
- Features include interactive charts, secure remote access, and system monitoring.
- Repository available at: [github.com/OriOnRo/SmartHouse](https://github.com/OriOnRo/SmartHouse)

## Interests

**Cooking** I especially enjoy cooking homemade meatballs in tomato sauce (not fried)

**Sports** Regularly practice physical activities to maintain a healthy and active lifestyle

**Reading** Enjoy reading a variety of books to broaden knowledge and stimulate creativity

## Languages

**Romanian:** Native   **Italian:** Native   **English:** B2 (Professional)