

David Araújo

Cybersecurity Master's Student and Graduate Researcher

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Education

University of Aveiro

M.S in Cybersecurity

B.Eng. in Computer Science and Telematics

Aveiro, PT

09/2023 - Present

09/2018 - 07/2023

Experience

Graduate Student Researcher

09/2023 - Present

Instituto de Telecomunicações

- Improve non-5G devices authentication and authorization (AA) mechanisms and support for legacy device in 5G networks, as its functions require devices to have 5G credentials.
- Stress testing and development of resilience improvements of [TeraFlowSDN](#) cloud-native architecture.

Undergraduate Student Researcher

11/2022 - 07/2023

Instituto de Telecomunicações

- Inserted in the FireTec project, my position was created with the intent of adding CAP (Common Alert Protocol) communication support to the existing infrastructure. (see [1](#))

Skills

Programming Languages: Go, Python, Rust, JavaScript, Java, C, Zig, Bash

Tools and Frameworks: Git, Ansible, Terraform, Docker, Vagrant, Kubernetes, MSSQL, SQL, GraphQL, AWS, Google Cloud, Prometheus, Grafana

Cybersecurity Skills: GRC, Risk Assessment, IAM Management, Threat Modelling, IS Auditing, SSDLC, SAST, DAST, Vulnerability Management, API Penetration Testing, Threat Hunting

Languages: Portuguese (native), English (proficient)

Projects

Reverse Engineering - PDF Manager Malicious Android Application

2024

- Analysis of the PDF Reader File Manager application. This was developed with the intent of stealing data from Android users, as described in [this](#) article.

Flexible, Risk Aware Authentication System

2024

- Design and implementation of an Identity Provider (IdP) using the OAuth 2.0 protocol, and three client services which use it for authentication and authorization.

Enhanced DES (E-DES)

2023

- Implementation of a DES variant known as E-DES, using a 256-bit key, derived from a user-provided password and S-boxes derived from the key, instead of using fixed and known S-boxes.

Deterministic RSA key generation (D-RSA)

2023

- Deterministic RSA key generation and implementation of a pseudo-random number generator and RSA key generator

Certifications

Blockchain Security Specialization, Infosec

07/2024

Cyber Incident Response Specialization, Infosec

07/2024

Cyber Threat Hunting Specialization, Infosec

07/2024

Information Systems Auditing, Controls and Assurance, Hong Kong University

07/2024

API Penetration Testing, APIsec University

09/2023

Publications

1. **A Low-Cost Embedded System to Support Broadcasting Emergency Messages rough FM Radio Stations**

M. Coelho; L. Santiago; [D. Araújo](#); A. Navarro; N. B. Carvalho

IEEE Embedded Systems Letters, vol. 16, no. 3, pp. 247-250, Sept. 2024