

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.

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, Vagrant, Kubernetes, MSSQL, SQL, GraphQL, AWS, Google Cloud,

Languages: Portuguese (native), English (proficient)

Projects

Reverse Engineering - PDF Manager Malicious Android Application

2024

- Analysis of the PDF Reader File Manager application. This app gained notoriety when it was removed from the Play Store. It was developed with the intent of stealing data from Android users, as described in this article [here](#).

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