David Araújo

Cybersecurity Master's Student and Graduate Researcher

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Education

University of Aveiro	Aveiro, PT
M.S. in Cybersecurity	09/2023 - Present
B.Eng. in Computer Science and Telematics	09/2018 - 07/2023

Experience

Graduate Student Researcher　　　　*Instituto de Telecomunicações*　　　　09/2023 - Present
- Improve non-5G devices authentication and authorization (AA) mechanisms and support for legacy device in 5G networks as N3IWF, TNGF and TWIF require devices to have 5G credentials in order to have a single point of provisioning

Undergraduate Student Researcher　　　　Instituto de Telecomunicações　　　　11/2022 - 07/2023
- 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 P1)

Skills

Programming Languages: GO Go, ® Rust, 🐍 Python, JS JavaScript, C++ C++, ☕ Java, C C, ZIG Zig, BASH Bash
Tools and Frameworks: Git, Ansible, Terraform, Vagrant, Kubernetes, MSSQL, SQL
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　　　　2023
- Implementation of an Identity Provider (IdP) and three services which 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

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 of Science and Technology	07/2024
API Penetration Testing, APIsec University	09/2023

Publications

P1 **A Low-Cost Embedded System to Support Broadcasting Emergency Messages Through FM Radio Stations**
M. Coelho; L. Santiago; <u>D. Araújo</u>; A. Navarro; N. B. Carvalho
IEEE Embedded Systems Letters, vol. 16, no. 3, pp. 247-250, Sept. 2024