Roberto Vasconcelos

React Native | React - Next.js | Node Developer

Phone: 5579991046000
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About me

To obtain a challenging and rewarding role that allows me to expand my knowledge and skills while making a meaningful contribution..

Personal Information

Gender: Male
Nationality: Brazilian
Date of birth: 11.04.1988
Language: Portuguese English Spanish

Education

Federal University of Sergipe — Aug 2016 – Dec 2018

Master's degree, Computer Science

• Master's dissertation: Immunological Security Approach Nased on Alert Correlation and Software Defined Networks Published Papers: - [ISM-AC: an immune security model based on alert correlation and software-defined networking](https://link.springer.com/article/10.1007/s10207-021-00550-x) - [A Novel Immune Detection Approach Enhanced by Attack Graph Based Correlation](https://ieeexplore.ieee.org/document/8969772) - [A Cloud Immune Security Model Based on Alert Correlation and Software Defined Network](https://ieeexplore.ieee.org/document/8795367)

Federal University of Sergipe — Mar 2007 – Jul 2015

Bachelor's Degree in Computer Science

Skills

- Javascript
- Typescript
- ReactJS
- React Native
- Node.js
- Linux
- Windows

macOS

MySQL

PostgreSQL

MongoDB

Redis

Amazon Web Service (AWS)

TestDriven Development

Domain Driven Development

CI/CD

Tailwind CSS

Work Experience

Hu Innovations — May 2022 – Continue

Full Stack Developer

• Full stack developer using the stack of ReactJS, React Native and NodeJS

Ma9 Soluções em Tecnologia — Dec 2019 – Jul 2020

React Native developer

• Mobile application developer for the financial market

Federal Universitária of Sergipe — Dec 2017 – Jun 2018

Programming Teacher

• I taught the concepts of imperative programming using the C language

Aracaju City Hall — Dec 2011 – Dec 2012

Web Developer

• Iternship as a web developer

Projects

Finder

• Social network based on the Black Mirror series, where it's possible to find and rate nearby Instagram profiles.

Middle

• Application that allows connection between athletes, agents, and clubs in the world of football

Publications

ISM-AC: an immune security model based on alert correlation and software-defined networking — May 2021

Roberto Vasconcelos Melo, Douglas D. J. de Macedo, Diego Kreutz, Alessandra De Benedictis & Mauricio Martinuzzi Fiorenza

• Anomaly-based detection techniques have a high number of false positives, which degrades the detection performance. To address this issue, we propose a distributed intrusion detection system, named ISM-AC, based on anomaly detection using artificial immune system and attack graph correlation. To analyze network traffic, we use negative selection, clonal selection, and immune network algorithms to implement an agent-based detection system. ISM-AC leverages the programmability of software-defined networking to reduce the false positive rate. Our findings show that ISM-AC achieves better detection performance for denial of service, user to root, remote to local, and probe attack classes. Alert correlation plays a key role in this achievement.

A Novel Immune Detection Approach Enhanced by Attack Graph Based Correlation

Jan 2020

Roberto Vasconcelos Melo; D. J. Douglas de Macedo; A. R. Mario Dantas; C. E. Luis de Bona

• Artificial immune systems (AIS) are computational intelligence inspired by the human biological immune system. The AIS four main algorithms are negative selection, clonal selection, immune network, and danger theory. This paper incorporates the AIS approach to develop an agent-based detection method to analyze network traffic. The system works with an attack graph based correlation technique. This technique can improve detection performance by decreasing false alerts. This work was tested for denial of service (DoS), remote to local (R2L), user to root (U2R) and probe attack classes. Results have shown the addition of the correlation technique can aid to the detection performance of AIS detection systems.

A Cloud Immune Security Model Based on Alert Correlation and Software Defined Network

Aug 2019

Roberto Vasconcelos Melo; Douglas Macedo

• In this paper, we explore the AIS approach to develop an agent-based detection method to analyze network traffic. The system works in conjunction with attack graph based correlation and software-defined network (SDN) technology to mitigate attacks. In the correlation technique, alerts are correlated through an attack graph which improves detection performance by decreasing the false alert rate. The false alert reduction can avoid the negative effect that an SDN countermeasure can bring to the cloud Service Level Agreement (SLA) on the absence of threats. This work was tested for multi-step and distributed denial of service (DDoS) attacks. Results have shown the addition of the correlation technique can aid to the detection performance of AIS detection systems.