

## Boladji Vinny ADJIBI

📍 Atlanta, GA, USA

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Self-motivated researcher with more than a year experience, I am interested in the possible uses of machine learning for cybersecurity problems. Over a period of two semesters, I was able to conduct a thorough analysis of online learning algorithms for botnet detection, which resulted in promising results. Driven by the need to contribute to the security challenges in Africa, I currently, conduct research that leverages machine learning to significantly reduce the cost of cybersecurity solutions.

### EDUCATION

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2019 – 2021

#### Doctor of Philosophy in Electrical and Computer Engineering

*Research Area:* Security solutions for SMEs

Georgia Institute of Technology, GA, United States of America.

2019 – 2021

#### Master of Science in Information Technology

*Specializations:* Cybersecurity, Applied Machine Learning

Carnegie Mellon University, PA, United States of America.

2015 – 2018

#### Bachelors Degree in Computer Science

*Specializations:* Information Technology Security.

Institut de Formation et de Recherche en Informatique, University of Abomey-Calavi, Benin.

### PAPERS

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1. **Boladji Vinny Adjibi**, Fatou Ndiaye Mbodji, Tegawendé F. Bissyandé, Kevin Allix, Jacques Klein, "The Devil is in the Details: Unwrapping the Cryptojacking Malware Ecosystem on Android", 2022 IEEE International Workshop on Source Code Analysis and Manipulation (SCAM) 2024

### AWARDS

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Distinguished Artifact Reviewer Award

Annual Computer Security Applications Conference (ACSAC) 2023

Lakshmi Subramanian CMU-Africa  
Student Excellence Award

Awarded for having best inspired fellow students to a love of learning through a combination of intellect, high scholarly achievement, engagement with the CMU-Africa community, and character.

Best Student Award 2017

Being awarded the prize for having the best results in my university for the academic year 2016-2017.

National Mathematics and Physics  
Contest, Benin

Ranked 8th in the national contest (2010) organized by the Abdus Salam Institute and the Institute of Mathematics and Physics Science.

### WORK EXPERIENCE

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August 2022 – Present

#### Graduate Research Assistant

Astrolavos Lab, Georgia Institute of Technology, USA

January 2022 – August 2022

#### Research & Development Specialist

TRuX, University of Luxembourg, Luxembourg

- Researched crypto mining applications in the Android ecosystem.
- Developed a new methodology to identify smart contracts hierarchy with a 100% confidence degree, outperforming existing techniques.

June 2021 – December 2021

### **Research Assistant**

Carnegie Mellon University Africa, Kigali, Rwanda

- Designed and implemented an SDN controller that detect changes in an online fashion for automatic fault recovery.
- Designed an application that allows for mass handwritten words data collection despite the COVID-19 pandemic.
- Created two hacking challenges to be used in a new Capture The Flag competition.

November 2020 – April 2021

### **Cloud Engineer**

Oltranz Ltd, Kigali, Rwanda

- Centralized the process to deploy application to the cluster by customizing and extending the Gitlab CI/CD pipeline.
- Removed errors in deployment by creating a custom Helm chart repository that dictates the components for every deployment.
- Reduced time to deploy to Jenkins by 30% by updating a script that creates the deployment file based on a simple configuration file.

February 2021 – May 2021

### **Graduate Teaching Assistant - Cognitive Robotics**

Carnegie Mellon University Africa, Kigali, Rwanda

- Developed example applications in ROSLISP and C++ to support the learning experience for the students.
- Provided support and helped students work through their assignments through regular office hours.

August 2020 – October 2020

### **Graduate Teaching Assistant - Mathematical Foundations of Machine Learning**

Carnegie Mellon University Africa, Kigali, Rwanda

- Created 5 programming assignments ranging from simple matrix computation to implementing some machine learning algorithms such as Ridge Regression, PCA, and SVD reduction.
- Supported student's performance in programming tasks by setting up auto graders with Python.

May 2020 – August 2020

### **Research Assistant**

Carnegie Mellon University Africa, Kigali, Rwanda

- Improved the accuracy of tasks executed by the robot model to 90% by tuning PID values and setting appropriate dynamics variables.
- Created a ROS package to control the robot model and environment using LISP and C++.

September 2018 – June 2019

### **Fullstack Web & Mobile Developer**

JMA Plus, Cotonou, Benin

- Increased customer satisfaction by modifying Joomla and WordPress extensions to fit their needs.
- Improved application performance by 10% using efficient queries leveraging the Laravel database API.

March 2018 – September 2018

### **Junior Web & Mobile Developer**

Emmac Corporation, Cotonou, Benin

- Improved a Java-based recruitment application performance by 15% by refactoring the code.
- Delivered mobile applications 50% faster than previously by using a Scrum methodology.

July 2016 – September 2017

## Front Office Engineer

Huawei Technologies Benin, Cotonou, Benin

- Reduced the incident reporting speed to less than 5 mn by developing a JavaScript application that parses sites that are down from nodes' query output.
- Improved the time to generate a weekly report by creating a Python script that parses and analyzes the data automatically with minor modifications on hand later.

## RELEVANT PROJECTS

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August 2020 – May 2021

### Masters' Thesis: Improving botnet activity detection using on-line learning

Masters' student.

[https://drive.google.com/file/d/1e4nrw1OLFjIsNXmt16kZqqZuAdP3Rgf\\_/view?usp=sharing](https://drive.google.com/file/d/1e4nrw1OLFjIsNXmt16kZqqZuAdP3Rgf_/view?usp=sharing)

**Tools and languages used:** Slurm, Bash, Python,  $\LaTeX$ .

**Abstract:** Over a period spanning two semesters, various online learning algorithms have been trained and compared to existing techniques in a bid to find resilient detection techniques. At the end of the project, the detection model outperformed the existing techniques.

March 2020-March 2020

### Penetration testing for the Rwanda Information Security Agency

Red teamer.

**Tools and languages used:** Metasploit, Burp Suite, Open VAS, nmap, Python.

**Abstract:** This project consisted in performing a penetration testing of the websites developed by the Rwanda Information Security Agency (RISA).

## SKILLS

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Cyber Security

**(advanced)** Kali Linux, Open Source Intelligence, **(intermediate)** Logs analysis, Cloud security, **(beginner)** Dynamic and Static Malware analysis.

Programming Languages

**(advanced)** Python, Java, Java Android, **(intermediate)** C++, Javascript, PHP, Bash, Lisp **(low)** Ruby, C.