

PASCHAL C. AMUSUO

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📍West Lafayette, Indiana

PERSONAL SUMMARY

Computer Engineering PhD student with experience in software engineering, security and embedded systems, currently investigating software vulnerability characteristics in embedded systems. I am passionate about improving the security and safety of embedded systems through well-engineered software systems.

EDUCATION

Purdue University, IN, USA

2021 - Present

PhD Student, Electrical and Computer Engineering

Courses taken: *Advanced IoT Design and Applications, Advanced Software Engineering, Artificial Intelligence*

Federal University of Technology, Owerri, Nigeria

2013 - 2018

Bachelor of Engineering, Electrical and Electronic Engineering

GPA 4.88/5.00 (Best Graduating Engineering Student, 2018)

Courses taken: *Data Communications, Digital Systems Design, Applied Electronics*

RESEARCH AND WORK EXPERIENCE

Graduate Research Assistant, Purdue University

Jan 2022 - Present

- Conducted an empirical study to investigate the vulnerabilities in Real Time Operating Systems (RTOS).
- Developed a program analysis tool using the LLVM compiler framework to predict the fuzzability of software programs.

Software Engineer, Seamfix Ltd

Mar 2020 - Jun 2021

- Designed various backend services for the Seamfix Base Platform that allows 4 different products manage their users, organizations, settings, user roles and privileges from a central platform.
- Managed the deployment, monitoring, and maintenance of several web applications on Google Cloud and AWS

Mobile Applications Developer, Naija Cowry Technologies

Jun 2019 - Mar 2020

- Developed the Cowry Inventory android application that helps retailers manage their sales, orders and inventory.
- Designed and built the Cowry Payment android application that enabled students in 2 tertiary institutions make everyday payments digitally by scanning QR codes.

OTHER TECHNICAL PROJECTS

Auto-grader for Software Engineering course

- Built an auto-grading tool using Java that assessed and graded students class projects automatically.

Cloud-based attendance system

- Designed a cloud-based class attendance systems that included a fingerprint-sensor-enabled embedded system, Node.js back-end and an android application.

LEADERSHIP EXPERIENCE

Founder, 360 Leadership Forum

2016 - 2019

- Built a community of over 200 undergraduate students interested in leadership and personal development
- Organized regular webinars in the group's online platform, focused on personal and career development.
- Planned and organized a leadership conference with 3 speakers and over 50 students in attendance.

AWARDS

Magoon Excellence in Teaching Award, Purdue College of Engineering

April 2022

Best Graduating Engineering Student, Federal University of Technology, Owerri

Oct 2018

TECHNICAL SKILLS

Programming Languages: C/C++, Java, Python, Bash

Software Development: Mobile Applications and Microservices development using Java

Vulnerability Detection: Fuzzing (AFL) and symbolic execution (KLEE) techniques

Embedded Systems: Integrating sensors and actuators to arduino microcontrollers

Cloud: Docker, Google Cloud Platform and AWS for Deploying web services