

Ebuka Johnbosco Okpala

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Education

Clemson University, Clemson, SC
Master of Science, Computer Science

May 2020
GPA: 3.75

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
Bachelor of Science, Computer Engineering
Second class honors (upper division)

July 2015

Relevant Coursework: Software Architecture, Deep Learning, Software Verification and Validation, Machine Learning, Design & Analysis of Algorithms, Computer Security, Database Management Systems and Applied Data Science.

Technical Skills: Python, C, JavaScript, Java, PHP, SQL, HTML, CSS, jQuery, Bootstrap, Tensorflow, PyTorch, Scikit-learn, Numpy and Pandas.

Research Experience

Clemson University, School of Computing, Clemson, SC
Software Security Researcher, Graduate Assistant

January 2019 – present

- Research is focused on developing a tool using Python, C and Angr to detect data-only attacks by finding branch correlation in program binary using symbolic execution. <https://secdev.ieee.org/wp-content/uploads/2019/BranchCorr.pdf>

Work Experience

Clemson Online, Pendleton, SC
Graduate Assistant

August 2019 – May 2020

- Developed a Python script to automate the calculation of location metrics of thousands of Clemson University students, using Google distance matrix API, NumPy and Pandas. Reducing a manual process that took weeks to under 5 minutes.
- Redesigned all Clemson Online supported tools webpages to be responsive.
- Developed websites for Clemson University supported tools and developed documentations for new tools.

Eresea Foods Inc, Anambra, Nigeria
Web Software Developer

January 2017 – June 2018

- Designed and developed the start-up's website from start to production using JavaScript, jQuery, PHP, HTML5, CSS3 and Gulp.
- Maintained the company's website and managed the e-mail accounts of employees.
- Registered the company's domain name and hosted the company's website

Andela, Nigeria

January 2016 – August 2016

Web Application Developer Trainee

- Completed Udacity's Web Development Track program.
- Developed a progressive news feed headlines web application using JavaScript, HTML5, CSS, Service Workers and Cache API.
- Developed a single-page Student Information System web application based on NodeJS and RESTFUL API using JavaScript, NoSQL - MongoDB, AngularJs, HTML5, CSS and Bootstrap.

Academic Projects

Database Management Systems

spring 2019

- Developed, designed and deployed meTube – <http://mademetube.com> on AWS EC2. MeTube is a modified version of YouTube which supports sharing of more media files, chat, discussions, channels and etc. Developed using PHP, JavaScript, jQuery, MySQL, HTML5, CSS3 and Bootstrap.

Software Verification, Validation and Measurement

Fall 2018

- Developed a web application that draws 2D shapes, finds the shortest distance between the vertex points in the shapes and draws a line between them, using JavaScript, HTML and CSS.
- Performed software requirement verification and validation, and developed test cases for both unit and functional testing of the 2D drawing web application.

Deep learning

spring 2019

- Developed a Convolutional Neural Network model to classify and detect cyberbully images using Python and PyTorch.

Hand on Machine learning

Fall 2019

- Developed a 4-layer Neural Network to predict if an image is a cactus image or not with using Python and Numpy.
- Developed a Naïve Bayes model from starch to predict if an email subject line is Spam or not spam using Python and NumPy.
- Developed a Logistic Regression model and a K-Nearest Neighbour model to classify fishes based on their body dimension using Python and NumPy.