

Zachary C. Koontz

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EDUCATION

B.S. Computer Science

High Point University

- GPA: 3.538
- Dean's List Recipient

May 2023

High Point, NC

Relevant Courses:

Advance Programming with Data Structures, Discrete Structures, Computer Systems, Intro to System Security, Web Development, Advance Data Structures and Algorithmic Development, Database Systems, Artificial Intelligence, System Security, Programming languages and design.

EXPERIENCE

SilverEdge Government Solutions

Intern and Casual Employee

May 2022 - Present

Linthicum, MD

- Gained experience in JIRA, machine learning, python, jupyter notebooks, AWS applications, application development, data manipulation, developing business plans and project prototypes.
- Utilized AWS deepracer and python to enhance machine learning capabilities. The deepracer application is also a nationwide competition, my virtual car taught by machine learning, was top 100 nationwide.
- Created and developed multiple data manipulation scripts to convert different types of files such as executable files, byte files, and assembly files into the required data format of binary images.
- Developed and tested a multilayer Convolutional Neural Network (CNN) using python, this neural network reads in binary image files that contain malware and benign images. The model trains and tests on different datasets, the highest training accuracy produced was 100% and the highest testing accuracy achieved was 96% - 97%. After the images are loaded into the model, and the CNN finishes testing the dataset, the model will output which files are malicious or not.
- Created and developed a working python desktop application for windows. The applications development was done through python GUI libraries. Inside the framework of the application, I loaded the CNN model that we created, also loaded in were the file converters, which convert different file formats into the binary images that the model required. The applications functionality included a fully functional interface where files could be converted into images or loaded into the CNN model, the application would then display if different directories, files, or folders on your computer contained malicious activity. The desktop application created an easy way for the client and upper-level management to be able to understand and interact with what was developed.
- The outcome of this project was a convolutional neural network that trained itself on image files of both malware images and benign images. After training, the model was able to detect malicious files inside a folder that was loaded into it, with an accuracy above 95%.

Rover 3pL

Rover 3pL Employee

July 2015 - Present

Ashburn, VA

- Worked on the shred truck, attending multiple paper shred events daily
- Packaged, loaded, and shipped multiple parcels for various customers
- Delivered hospice supplies to hundreds of patients daily
- Facilitated the destruction of hard drives and tapes.

Millwood Country Club

Golf Course Employee

August 2016 - August 2021

Millwood, VA

- Part time golf course landscape management
- Golf camp instructor

Moose Apple Tree Farm**November 2020 - Present**

Tree Processor

Berryville, VA

- Worked tandem with multiple employees to sustain the day-to-day operations of a tree farm.
- Worked closely every day with hundreds of customers satisfying any need they had

Air Force ROTC**January 2020 – May 2021**

Cadet

Greensboro, NC

- Facilitated and ran over 50 PT sessions for 100 cadets
- Lead and ran a squadron of 20 cadets
- Planned and oversaw over 25 community service events

CAMPUS INVOLVEMENT/ CAMPUS ACTIVITY'S

- Tracer Fire **March 2022 - Present**
 - Participated in Tracer Fire, a live cyber security event run by Sandia National Laboratories
 - Trains students to respond and identify cyber threats in a system
 - Tools used were Security Onion, Arkime, Velociraptor, Kolide Fleet, Sysmon, Volatility, Autopsy and Ghidra
 - 2nd place finish in team competition
- Campus Ambassador **February 2020 – February 2022**
 - Conduct multiple tours a week to incoming students
- Alpha Lambda Delta Honors Society **March 2020 – Present**
 - Awarded membership from achieving a 3.7 GPA freshman year
 - Conduct and oversee multiple community service events
- Club Golf **September 2019 – Present**
 - Team Captain

SKILLS

- Experienced in C++, C, HTML, python, Java, MySQL, Assembly and C# programming languages
- Communication, adaptability, organization, and dedication

AWARDS

- Clarke County High School
 - All Academic Honor Student Athlete
 - Three time all A's Honor roll student
- AFROTC
 - Presented with a challenge coin by a 4 Star General
 - Cadet of the Month three times
 - 15 award ribbons for academic, athletic, and service before self-values