Nathaniel P. Salazar

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Education:

M.S. in Computer Science, Expected May 2022 (B.S./M.S. Dual Degree Program)

B.S. in Computer Science, December 2020	**HS Advanced Diploma**, June 2017
Minor in Math and Cybersecurity	Governor's Seal and STEM Silver Certificate,
Virginia Tech, Blacksburg, VA	Grassfield High School, Governor's STEM Academy,
Major GPA: 3.83/4.0 Overall GPA: 3.66/4.0	Chesapeake, VA
	GPA: 4.59/4.0

Citizenship: United States | **Security Clearance:** Top Secret/Full Polygraph

Skills:

Languages: Java | C | Python| C++ | SQL | MATLAB | HTML | Scala | Prolog | Javascript | CSS
Software: Linux | Eclipse | Git | Oracle Virtual Box | Jupyter Notebook | LaTeX | Wireshark | MS Office Suite

Related Experience:

National Security Agency (2018 – Present)
- Cryptanalytic Computer Network Operations Development Program: Current Participant
- Stokes Educational Scholarship Program (2018-2021): Alumni of a recruitment program for Computer Science
- Cryptanalysis Tools (Summer 2019): Developed exploitation software to aid analysts in evaluating encrypted communications of interest.
  - Dealt with programming languages such as C++ and libraries such as OpenSSL and Boost
  - Better understanding with implementing standard commercial cryptographic hash and encryption algorithms.
- Network Research at LTS (Summer 2018): Researched and analyzed a Web application based on Apache Tomcat and Java looking for vulnerabilities such as XML External Entities and Java Deserialization and developed a tool to query for key information in the Web application's database
  - Tools such as Procyon decompiler, Wireshark, Oracle SQL Developer and OpenGrok (source code search and cross reference engine)
  - Dealt with programming languages such as Python, SQL, and Java.
  - Greater understanding on networking principles relating to routers and HTTPS, database management, and Linux command line interface.
  - Responsible for updating internal wiki as project progressed and a final presentation to partners and users of the tool.

Graduate/Undergraduate Teaching Assistant (2019 – Present, VA)
- Computer Systems, Comparative Languages - Assisted students with debugging and organized coursework.

Undergraduate Research (2020, VA)
- Algorithms Research under Dr. Raghvendra – Implemented weighted approach to compute a maximum cardinality matching in an arbitrary bipartite graph.

Systems & Networking Capstone (CS 4284) Project (2020)
- Developed a Blockchain web app used as a parking solution for Virginia Tech in a group of 5 other students
- Technologies used: Ubuntu WSL, node.js, React, EOSIO api
- Won VT Blockchain Challenge Phase I (Runner-up) and Phase II (3rd Place Honorable Mention)

HUME Scholar Researcher (2019-2020)
- Analyzed and developed Machine Learning model to detect bias for predicting crime in Baltimore area.
- Technologies used: Python (Juypter Notebook, PyPlot, Pytorch)

Activities:

Website: https://nintendroid1.github.io/ Git Repository: https://github.com/Nintendroid1

Virginia Tech Cyber Security Club/VTCSEC (2018 - Present)
- Introductions to Reverse Engineering, Networking, Cryptography, etc.
- Cybersecurity Competitions: MetaCTF (2018), CCDC (2019), CyberFusion (2019)

PatriotHacks (2018) - Twitter Sentimental Analysis Web App built on Python. Won Best Use of Open Source Libraries.

Hack.UVA (2018) - Messaging App with RSA encryption built on Java.

Web Development Club@VT (2018 - 2020) - Secretary – Administrative tasks, encourage learning

Case number (RES-2019-05757)