

Nathaniel P. Salazar

Education

M.S. in Computer Science, Expected May 2021 (B.S./M.S. Dual Degree Program)

B.S. in Computer Science, Expected December 2021

Minor in Math and Cybersecurity

Virginia Tech, Blacksburg, VA

Major GPA: 3.83/4.0 Overall GPA: 3.66/4.0

HS Advanced Diploma, June 2017

Governor's Seal and STEM Silver Certificate,

Grassfield High School, Governor's STEM Academy,

Chesapeake, VA

GPA: 4.59/4.0

Skills:

Languages: Java | C | Python | C++ | SQL | MATLAB | HTML | Scala | Prolog | Javascript | CSS

Software: Linux | Eclipse | Git | Oracle Virtual Box | Oracle SQL Developer | LaTeX | Wireshark | MS Office Suite

Related Experience:

National Security Agency (2018 – Present)

- Stokes Educational Scholarship Program: Current student 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.

Undergraduate Teaching Assistant (2019 – Present, VA)

- Comparative Languages, Intro Programming in C++ - Assisted students with debugging and organized coursework.

Undergraduate Research Volunteer (2018 – Present, VA)

- Synergy lab under Dr. Feng - Helped design curriculum for teaching parallel programming for middle school students.

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 (Jupyter Notebook, PyPlot, Pytorch)

Activities:

<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)

SheHacks (2020) – Web app to connect homeless shelters with restaurants that have excess food.

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 - Present) - Secretary (2018 - Present) – Administrative tasks, encourage learning