Addy Moran

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Programming isn't about what you know; it's about what you can figure out. — Chris Pine

Summary

Software Engineer with more than 4 years of experience in research and development, focusing on cyber security and data analytics. Well-rounded engineer, seasoned in everything from program management to technical implementation.

Tool Suite

- Security Clearance: Secret

- Programming Languages: Java, Python, C/C++, UNIX/Linux, LaTex, Unified Modeleling Language (UML), HTML/CSS, JavaScript, SQL/NoSQL

- Operating Systems: Linux (Ubuntu, RHEL/CentOS, Kali), Mac OS, Windows

- Integrated Development Environments (IDEs): Eclipse, IntelliJ IDEA

- Text Editors: Vim, Emacs (obviously the best choice ;)), Sublime Text

- SQL: MySQL, SQLite, MariaDB

- NoSQL: CouchDB

- Full Stack Web Development
  - Python: Flask, CherryPy
  - JavaScript: Node.JS, ExpressJS
  - Front End Frameworks: Bootstrap, Materialize

- Procedures: Scrum, Agile, Object-Oriented Design (OOD) and Test Driven Devleopment

- Virtualization Tools: VirtualBox, VMWare, CypherPath

- DevOps: Docker

- Version Control: Git (Github, Gitlab, BitBucket)

- Team Communication Tools: Slack, Trello, Skype, ZenHub

- Soft Skills: Time Management, Problem Solving, Technical Writing, Self-Management, Remote Experience, Leadership, Communication, Adaptability, Program Management, Mentor, Solution Oriented

Proudest Accomplishments

- Have two patents (one full patent, one provisional patent)

- Have lead three software projects where I presented to senior leadership and customers, managed the budget and tasked more senior engineers

- Have presented at the Women in Cyber Security Conference (WiCyS) three times

Education & Certifications

- Master's in Computer Science, Arizona State University, May 2022

- Bachelor's in Science, Colorado State University, May 2018
  - Major in Computer Science
    - Relevant Coursework: Software Engineering, Database Systems, Object-Oriented Problem Solving, Software Development with C++, Algorithms, Operating Systems, Computer Networks and the Internet, Systems Security
  - Minor in Mathematics
    - Relevant Coursework: Mathematics of Information Security, Calculus I/II/III, Linear Algebra I/II, Introduction to Statistical Methods

- Certified Ethical Hacker

- Part 107 Commercial Drone Pilot

Work Experience

- Raytheon
    - Cyber Analyst, June 2019 - Current (100% remote)
        - Complete manual offensive tests to verify vulnerabilities and the severity
        - Support the stand up of a new effort by developing Concept of Operations (CONOPs), our 2020 approach, and by presenting new effort to senior leadership
        - Proactively search for cyber attacks and gaps in security measures by leading hunts, acting as a Threat Hunting SME, and by developing training
        - Designed and am currently prototyping a tool that monitors a company's digital footprint
        - Support the stand up of the Threat Hunting Services team by assisting in the development of the Concept of Operations (CONOPs), process documentation and training material
    - Software Engineer, May 2018 - December 2019 (50% remote)
        - Lead an 8 month, $175K, research project, building a digital forensics tool for use in embedded communication protocols. My work focused on building documentation, presenting to leadership, tasking a team of four and designing and implementing the user interface (Flask and Node.JS). This solution received a provisional patent and will be integrated into two additional projects at Raytheon.
        - Designed and prototyped a satellite data reduction algorithm that finds interesting patterns within TLE data.
        - Participated in a cyber rotation program (was one of the engineers chosen from Raytheon's four business units).
        - Training
            - Built and taught MIL-STD-1553B and MIL-STD-1760 curriculum for an internal embedded security course.
            - Built cyber curriculum for interns and entry level engineers
        - Raytheon CODE Center
            - Conducted Red Hat and Windows hardening exercises
            - Managed an automated patch management project where we used machine learning to prioritize required system and application patches
            - Worked with internal Raytheon programs to test for cyber resiliency and provided suggestions on ways to mitigate potential attacks
    - Cyber Security Engineer Intern, January 2017 - May 2018 (50% remote)
        - Developed an avionic network mapper where I focused on full stack development (SQLite, Python 3, and Python Flask) and program planning and management. This solution has received a full patent and will assist in securing aircrafts by detecting human error, insider threats and supply chain threats (Patent Application #20200110679)

- - Used Chef to automate system hardening for satellite systems to prevent common cyber vulnerabilities and meet government and program requirements.
- Colorado State University
  - Research Assistant, September 2016 - January 2018
    - IoT Penetration Testing: Created Raspberry Pi network monitor for device classification and security vulnerabilities, analyzed network traffic for vulnerabilities and statically and dynamically analyzed device firmware
    - Developed a Python script that pulls network data and puts the data into a logical structure to help during analysis.
    - Developed websites for finished graduate research projects
    - Developed Python scripts to test the quality of transferred medical data
  - Teaching Assistant, January 2016 - January 2018
    - Taught students concepts in Java, Python, HTML, CSS and UNIX
    - Coordinated review sessions and create study material to break down complex information into more manageable sections
    - Assisted professors with curriculum by creating and critiquing homework and labs assignments

Patents & Awards

- Filed provisional patent for exploiting the hacking process to secure embedded protocols, September 2019
- Filed patent for avionic component identification algorithm, September 2019
- Received 2nd place in the Undergraduate Poster Competition at WiCyS, March 2017

Volunteer

- Software Engineer at Joy International, March 2020 - Present
- TraceLabs, August 2019 - Present
- Denver Metro Science and Engineering Fair, February 2019
- Girls Day at the Aurora Boys & Girls Club, February 2019

Activities/Presentations

- Presented "Exploiting Your Digital Footprint" at the Women in Cyber Security (WiCyS) conference in March 2020 (slides, video of presentation)
- Participated at the Rocky Mountain Collegiate Cyber Defense Competition (RMCCDC) on the Gold Team, March 2020
- Presented Hacking Your Day-To-Day Travel at the Women in Cyber Security Conference (WiCyS),

March 2019

- Presented on automated patch management at the Ground System Architecture Workshop (GSAW), February 2019

- Presented a poster on gathering location data from an Android device at WiCyS, March 2017

- Participated on the White Team at the Rocky Mountain Collegiate Cyber Defense Competition (RMCCDC), March 2017

- Presented on the Security of Internet of Things (IoT) poster at Rocky Mountain Celebration of Women in Computing, September 2016

Personal Projects

Completed

- Garmin Watch Climbing App is an app designed for the Garmin Fenix 6 Pro watch that records climbing statistics (for both bouldering and big wall climbing) that does not require the user to specify start/stop for each climb.

- Android Information Gathering Tool is a tool that gathers and sends location from an Android phone to a user interface. Presented at the Women In Cyber Security Conference in 2017.

- CarMD is a web interface that helps people understand OBD-II error codes. Node.JS, ExpressJS, SQLite, and Python were used to consolidate and display the relevant information to the user.

- Facial Recognition Home Security Tool uses facial recognition to detect a home intruder. This project was completed as part of my operating systems class at Colorado State University.

In Progress

- Cipher Learning Tool is a tool used to demonstrate various ciphers, explain the history of ciphers and help the users understand password security (in terms of how long it'd take go crack). Planned implementation Python 3, Jupyter Notebook and Django.

Publications

- Exploiting Your Digital Footprint, Presented at Women in Cyber Security, 2020

- Hacking Your Day-To-Day Travel, Presented at Women in Cyber Security, 2019

- Android Information Gathering Tool, Presented at Women in Cyber Security, 2017

- IoT Security Poster, Presented at Rocky Mountain Celebration of Women in Computing, 2016

- Steganography Poster

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