Nathan Tucker

2620 Blankenburg Dr. Unit A, Ames, IA, 50010 | github.com/ntuckertriplet | njtucker@iastate.edu | (319).333.8509

Education

Iowa State University, Ames, IA, Intended Grad May 2022
B.S. Software Engineering, 3.34 GPA

Technical Experience

SRE Intern at Pearson   Jun 2021 - Present
- Develop a full stack application in AWS with AWS Amplify, utilizing Lambda functions, Dynamo DB, all from a React TS app in ECS
- Enterprise unit testing and dev ops with Jira, Bitbucket, and pipelines to test/deploy code to the cloud
- Add new features to application following industry best practices and styles while adding security and reliability to the project

SecOps Intern at Pearson   Jun 2019 – Sep 2019, Jun 2020 – Aug 2020
- Saved 10-15 hrs/week by making creating Django + Celery tool to centralize information from Acunetix, Blackduck, and Checkmarx
- Utilize AWS Console as well as AWS CLI to interact with and secure AWS instances, later used python scripts with boto3
- Automate security infrastructure and deployment with Terraform and Cloudformation templates
- Experiment with open source penetration testing tools and frameworks to exploit vulnerabilities

Research Lab Assistant at ISEAGE   Jan 2019 - Present
Internet-Scale Event and Attack Generation Environment (ISEAGE)
- Directed multiple Cyber Defense Competitions for high school, community college, and national college students
- Developed intentionally vulnerable applications and environments for students to defend and attack
- Planned and executed unique scenarios for each competition
- Systems Administration with vCenter products and various networking setups

Skills and Projects

Full Stack Development
- Developer and maintainer of IScorE, Django application for CDCs using Celery, Python, and interfacing with Active Directory
- Worked to create full stack Spring Boot app with Gradle for competition using a REST API, PostgreSQL, and Thymeleaf
- Created in Django framework, with python backend and basic HTML, CSS, and JavaScript front end
- Developed in ASP.NET CORE for a signup page connecting to Windows Active Directory
- Personal website created in React JS and deployed on-prem

Network and System Administration in Enterprise and Homelab
- Configure headless and GUI Linux and Windows operating systems, such as FreeBSD, RHEL, Ubuntu, and Windows Server
- Worked with machines on Proxmox and ESXi, VMware vSphere, physical, and logical networking concepts
- Maintenance and patching of hosts' hardware as well as virtual OS updates and patches

Command Line and Low-Level Programming in C/C++
- Created audio generation library to take in custom configuration files and output familiar songs with different wave types
- Networking and socket programming in C to send and receive server/client communications
- OS utilities using pthreads and processes

Languages
C, C++, Golang, Python (including Flask and Django), C# (ASP.NET Core), Java (Spring), JavaScript (and HTML/CSS)

Awards

Best Domain Winner, HackISU   Nov 2018
- Competed at Iowa State hackathon, utilizing Javascript (pico.js, matter.js) for facial and motion tracking
- Collaborated with a team of 3 to create the best website we could from the ground up in 48 hours

First Place in CTF, BSides Iowa Security Conference   April 2019
- Competed against business professionals in a CTF challenge, more than doubling the points of second place
- Solved challenges to earn flags and gain points for the team including steganography, scripting, and network analysis