ALEXANDRA VOGT

Software Developer

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WHO AM I?

I am Alexandra Vogt and I love computer science, from its most basic fundamentals in Turing machines and assembly to it's most complicated in massively parallel systems. I also love programming and have had experience developing software in a variety of different languages and paradigms. I strive to bring to the table my best and to help create a better, brighter tomorrow through software development and organization while also being a mission oriented team player that produces good, readable, idiomatic code.

PROJECTS

Lunar Arithmetic Language github.com/Alexandra-Vogt/lc

I developed a esoteric programming language with symbol completion in python. I learned how to write a parser and lexer as well as how to develop code that would be extensible in the future. To develop it I overcame challenges such as the implementation of errors and the gradual expansion of the language to include more and more features.

`python / tries / languages`

x86-64 Stream Encryption Program

I have written a stream encryption program in x86-64 assembly. I personally wrote a hashing function to generate a seed that was then fed into a PRNG based on linear congruential generator thereby creating a stream of pesudo-random numbers that could be used to encrypt or decrypt a message. This as well as my other assembly projects taught me the fundamentals of low level software development.

`x86-64 / masm / low level programming`

Cloud Native Containerized Website github.com/Alexandra-Vogt/personal-website

This website is essentially based on containerization with it serving as the basis of its most awesome feature: a web browser accessible shell in a sandboxed environment allowing anyone to log on and use projects I have created. This project presented a series of interesting security engineering problems that I had to solve and learn to manage. It also made me learn to create and understand the GCP bash API.

`python / docker / google cloud / *nix`

Eris Discord Bot github.com/Alexandra-Vogt/eris

Eris is a discord bot for running code and other similar things written in discord comments and prefixed by an invocation sequence as well as a calculator. In creating the bot I learned how to process untrusted user input and provide facilities for logging user inputs, providing a friendly interface for users, and managing user permissions to various subsections of the bot.

`python / System Architecture / languages`

Virtual Machine in C++ github.com/Alexandra-Vogt/system-b

I developed a basic memory to memory little endian word addressable virtual machine with a von Neumann architecture with IO conducted via a shared memory address space. This project made me understand the beauty in computer architectures and also made me appreciate the complexity within hardware design even though it was not in itself hardware design. Furthermore it made me overcome challenges with the design of a Turing complete emulation of a computer with its own assembly language.

`C++ / OOP / VM Design`

EXPERIENCE

President of the El Camino College Virtual Reality Club El Camino College

As the president of the El Camino College Virtual Reality Club I was responsible for developing synergistic relationships with other, similar clubs, budgeting, managing interactions with other clubs, and organizing a group of people as to operationalize a vision of a more connected, technologically advanced campus. In my administration of the club the membership of said Club doubled and a website was created for the club.

Computer Science El Camino College

I studied computer science at El Camino college, taking the x86-64, Algorithms, Java, UNIX, and cybersecurity classes, giving me a broad overview of the field while also helping me develop as a programmer.

HOBBIES

I enjoy writing and reading fiction as well as poetry and painting on my free time I also enjoy coding on my free time and am rather interested in number theory and language design.

EDUCATION

El Camino College
Majored in Computer Science
Took Cybersecurity and Digital Forensics Classes
Oct. 2017 – Jun. 2019