Elsa Velázquez

ELVE5895@COLORADO.EDU 915-603-2050 (TS/ SECRET - *inactive*)

EDUCATION

Computer Science

GPA 3.6

Tau Beta Pi Honor Society

COMPUTER SCIENCE, B.S., Tau Beta Pi Honor Society*, CU Boulder, CO, December 2019*

INSTRUCTIONAL SPECIALIST, M.ED., *UTEP, TX, 2009*

AVIATION ELECTRONICS- Technical, *US Navy, FL, 2003*

WEB DEVELOPMENT, **A.A.S.,** Phi Theta Kappa Honor Society, *Seattle Central CC, WA, 2002*

PSYCHOLOGY, B.S., *Texas A&M University, College Station, TX,* 1998

SKILLS

IA/IO Concepts

Coding

Problem-solving

Emotional Intelligence

Self-motivation

Oral and written communication

U.S. Citizen

Bilingual (Fluent in Spanish)

ADVANCED

- Blockchain technologies and risks
- Python with numpy and Crypto libraries
- Web Services, XML, HTML5, CSS
- Windows Operating System
- Sandboxed Environments, VMWare Controlled Interface Virtualization

INTERMEDIATE

- Python (Numpy, Pandas), C Programming Language, SQL, mySQL
- Data Structures and Algorithms
- Firmware low-level programming and operating system internals
- Unix/LInux, Verilog
- Information system security technologies, risks and mitigations- network firewalls, data flow control
- Malware analysis
- Reverse Engineering
- Post Quantum Cryptography Applications
- Networking fundamentals, protocols and common services such as DNS, FTP, email and SSH Reverse engineering

EXPERIENCED BEGINNER

- Perforce, GitHub version control software
- Bash shell scripting
- jSon, javaScript, Heroku

EXPERIENCE

Seagate
Summer & Fall 2019

FIRMWARE SECURITY ENGINEER INTERN III

- Test Post Quantum Cryptography (PQC) implementation for specific products (nondisclosure) and develop a crypto-agile API in C programming language
- Scout, shortlist and complete Proof of Concept for PQC in embedded applications
- Organize and help lead team meetings with senior engineers to deliver product

Senior Thesis
CU Boulder
Spring & Fall 2019

POST-QUANTUM CRYPTOGRAPHY EFFECTS ON THE BITCOIN BLOCKCHAIN

- Code efficient Blockchain POW, blockchain and cryptocurrencies, elliptic curve digital signature and Shor's algorithm in Python and simulate attacks
- Propose solutions to diminish effects of quantum threats on Bitcoin Blockchain
- Accepted to the 2019 Applied Computer Security Associates Conference, Puerto Rico

Independent Studies
CU Boulder
Summer 2018

MUSICAL SIGNATURES INTEGRATION WITH INTERACTIVE ROBOTIC OBJECT

- Prototype testable algorithms for iterative development and rapid prototyping
- Arrange tones for integration into Android app as cues for human engagement in specific cognitive and language-based tasks
- Initiated data organization and created a measurement tool for quantification

U.S. Navy
2003-2005

CRYPTOLOGY (RESERVES), AVIATION ELECTRONICS(ENLISTED)

- Referred to electronic systems in technical wiring diagrams for troubleshooting
- Protected Secret data by loading bricks daily and wiping codes - Adhered to TS and Secret protocols

Other Work Included

FREELANCE WEB DEVELOPER
2003- 2019

ELEMENTARY SCHOOL INSTRUCTOR
2007- 2017

RESEARCH SPECIALIST
1999-2003

BRIDGE TO WORK PROJECT COORD
1998- 1999