# 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
- Web Services, XML, HTML5, CSS
- Windows Operating System
- Sandboxed Environments, VMWare Controlled Interface Virtualization

**INTERMEDIATE**

- Data Structures and Algorithms
- Reverse Engineering
- Post Quantum Cryptography Applications

**EXPERIENCED BEGINNER**

- Perforce, GitHub version control software
- C Programming Language
- Firmware low-level programming and operating system internals
- Asymmetric Encryption

**BEGINNER**

- Bash shell scripting,Unix/ Linux
- Python (Numpy, Pandas), SQL, mySQ, javaScript
- Networking fundamentals, protocols and common services such as DNS, FTP, email and SSH
- Reverse engineering

## 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