Sidh Suchdev

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Education

Aug 2021- Present   **University of Texas at Austin**   Austin, TX
- Bachelor of Science in Computer Science

Aug 2017- May 2021   **Cypress Woods High School**   Cypress, TX
- Ranked 2nd out of 857 students with a GPA of 6.900 on a weighted 6 point scale

Experience

May 2021 - Aug 2021   **A-Plus Computer Science**   Cypress, TX
- Developed an online IDE built off the LAMP stack capable of editing, running, and saving user inputted Java or Python code
- Implemented a dynamic user interface that updates as the user makes changes using JavaScript and jQuery
- Created a robust file saving and retrieval system using AJAX calls and managed database queries using PHP
- Restructured various software design issues and patched severe vulnerabilities

Projects and Activities

Jul 2021 - Present   **RamenBoy**   Cypress, TX
- Developed a GameBoy emulator in C designed to be able to run games and programs that a GameBoy can run on a PC
- Learned about how components of a computer system such as the RAM, CPU, and GPU work and interact with each other
- Used the technical specifications of the GameBoy from various sources such as its clock speed to mimic the actual function and capabilities of the GameBoy CPU
- Implemented each operation its instruction set based on the specifications of the GameBoy
- Created a GUI that displays the output of the GameBoy using the SDL library

Jul 2021   **IBM Qiskit Global Summer School 2021 on Quantum Machine Learning**   Remote
- Enrolled in a two week course designed to teach the principles and applications behind quantum machine learning
- Learned about topics in quantum information theory such as qubits and various quantum algorithms, topics in quantum machine learning such as quantum kernels, as well as the quantum computing library Qiskit
- Demonstrated knowledge in quantum machine learning through various labs testing on the material covered in lectures
- Awarded a Certificate of Quantum Excellence for passing on all the labs throughout the course

Mar 2021   **CTF-crypto-lib**   Cypress, TX
- Created a Python library designed to make solving cryptography problems for cybersecurity CTFs simpler
- Implemented cracking tools that use frequency analysis of letters and tetragrams for simple ciphers such as the Caesar Cipher, Substitution Cipher, and the Vigenere Cipher
- Developed a simple-to-use decryption technique for RSA encrypted ciphertext that used weak parameters during the encryption process

Skills

- **Programming Languages:** Java, C/C++, JavaScript, Python, PHP, SQL
- **Frameworks and Programs:** HTML/CSS/JS, AJAX, jQuery, ReactJS, Node.js, MariaDB, Qiskit, PyTorch, Unix/Linux
- **Concepts:** Algorithms, Software Development, Mathematics, Cryptography, Cybersecurity, Machine Learning, Quantum Computing, Git, REST APIs

Awards/Certificates

Jul 2021   **Certificate of Quantum Excellence**   Remote
- Received award for passing on all labs on the IBM Qiskit Global Summer School 2021

May 2021   **UIL 6A State Champion for Computer Science Team Event**   Texas
- Placed first in the Computer Science Team event for the Texas 6A Conference, a team event that tests knowledge in algorithms and programming through several coding questions

March 2020   **American Invitational Mathematics Exam Qualifier**   National
- Scored a 108 on the AMC 12 B 2020 exam and qualified for the AIME