Adam I. Richardson

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SKILLS

- Java
- Python
- C/C++
- SQL
- JavaScript (Express)
- HTML/CSS
- API's
- UNIX
- SDLC
- GitHub
- Agile
- Docker
- VirtualBox
- C# (Unity)
- DS&A

EDUCATION

University of Denver, Denver, CO **September 2020 – June 2024**

BS Computer Science, Minors in GIS and Mathematics

Magna Cum Laude (3.87 GPA)

- CS coursework: Software Engineering, Data structures & Algorithms, Systems Programming, Computer Organization, Operating Systems, Programming Languages, Natural Language Processing, Mathematical Cryptography, Game Programming, Linear Algebra, Quantum Computing, Human-Centered AI
- GIS coursework: GIS Programming, Computer Cartography, Geographic Statistics, Remote Sensing, Environmental GIS, Geographic Information Analysis

Arapahoe Community College, Castle Rock, CO **August 2019 – May 2020**

Associates Certificate for Cisco Networking

- Relevant coursework: CompTIA A+ intro, Cybersecurity, CISCO Networking I, II, and III

RELEVANT PROJECTS

RSA Cryptosystem (Java) – DU **May 2023 – June 2023**

Solo Project

- Created a full cryptosystem from the ground up that allows key generation and encryption/decryption.
- Searches for prime numbers by putting 2048-bit numbers through many Solovay-Strassen tests
- Generates the private and public keys and outputs to a file
- Also allows for the entry of keys for encryption/decryption of text
- Used complex data structures & algorithms for exponents, Jacobi symbols, and multiplicative inverses
- Tested the project by sending messages to others with our own systems using public/private key pairs

Quirk2Qiskit (Python/JavaScript) – Personal Project **March 2024 – Ongoing**

- Solo Project - https://github.com/AIrvenRichardson/Quirk2Qiskit
- Turns quantum circuits made in Quirk into python code for Qiskit
- Now uses regex on the quirk URL to interpret and recreate the circuit as code
- Translated to JavaScript so it can be run as a web application

Tool for Molecular Diagnostics Lab – DU **January 2024 – March 2024**

One of six members, tasks were spread evenly

- Upgraded an old code base for a python command line tool to have a graphical interface with Tkinter
- Upgraded a pipeline for converting EDS files and processing them for importing into a SQL database
- Designed a system for checking MD5 hashes to detect duplicate files before converting for performance
- Used an agile development process with two sprints
- Self-guided skills development for Tkinter and SQL before starting development
- Met with the client regularly for requirements elicitation