

Adam I. Richardson

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EDUCATION

University of Denver, Denver, CO

Graduated: June 2024

BS Computer Science, Minors in GIS and Mathematics

Magna Cum Laude

- 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

Graduated: 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
- Uses complex algorithms for giant 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/AIrvnRichardson/Quirk2Qiskit>
- Turns quantum circuits made in Quirk into python code for Qiskit
- Formerly used Selenium to grab the circuit from Quirk
- Now uses regex on the quirk URL to interpret and recreate the circuit as code
- Outputs a text file containing python code for your Quirk circuit to run on a quantum computer
- 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

SKILLS

Programming Languages: Java, Python, C/C++, Haskell, C#, C++, Javascript, SQL

Computer: Git, Word, Canva, Excel

Virtualization software: Docker, VirtualBox

Geography Software: ArcGIS, Excel (for statistics), JMP, ENVI