

Rodney McCoy

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PROFESSIONAL SUMMARY

4th Year Mathematics student with experience in pure mathematics, algorithms, and Data Science. Interested in applying knowledge of algorithms and mathematics to solve critical, real-world problems.

EDUCATION

Bachelor of Science in Mathematics - General

Bachelor of Science in Computer Science

University of Idaho | Moscow, ID | *Expected May 2023*

- Cumulative GPA: 3.83 / 4.0 | Dean's List
- Relevant Coursework: Real Analysis, Abstract Algebra, Abstract Linear Algebra, Discrete Math I & 2, Proof via Number Theory, Calculus I / II / III , AI, Machine Learning, Analysis of Algorithms, Data Structures and Algorithms, Software Engineering, Computer Graphics, etc.

PROJECTS

Undergraduate Research (Ongoing) | Fall 2022

- Python implementation of standard permutation algorithms (converting between 1-line, disjoint cycles, transpositions) and implementations of metrics on the symmetric group of permutations
- Analysis and conjecture about proving a necessary and sufficient condition for equality of equation of metrics over signed permutations

Probabilistic Algorithms in Cryptography | Fall 2022 | <https://github.com/RodneyMcCoy/probabilistic-algorithms>

- Discussion of necessity of probabilistic algorithms, including Theoretical and Practical Computational Complexity
- Implementation of multiple probabilistic algorithms, pseudo random number generators, primality tests, etc
- Visualizing results using Matplotlib and Jupyter Notebook

Database Systems | Spring 2022 | <https://github.com/RodneyMcCoy/store-website-database>

- Collaborated with Computer Science students to create a website written in python using the Django Framework
- Designed and formatted the GitHub repository to follow best practices

Software Engineering | Fall 2021 | <https://github.com/JamesL-dev/project-scoto>

- Collaborated with Computer Science students to produce a 3D video game using the Unity Game Engine and Scripting API.

SKILLS

Proficient in C / C++ | Python

Knowledgeable in GitHub | LaTeX

Familiar with C# | Linux

EXPERIENCE

Tutoring, Moscow, Id | University of Idaho | August 2022 - Present

- Taught students fundamental mathematical principles and techniques / best practices for writing mathematical proofs
- Instructed over a wide variety of courses from the Calculus Series to Theory of Computation and Data Structures / Algorithms

Eagle Scout Award | April 2016

- Organized a group of 10+ people in a leadership project to repair props used by high schools' cheer team.
- Preserved and protected the environment by practicing leave no trace and emphasizing sustainability.