

Curriculum Vitae

Rodney McCoy
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Education:

Ph.D., Mathematics, University of Utah, Expected May 2028

B.S., Mathematics (GPA: 3.83), University of Idaho, May 2023

B.S.C.S., Computer Science (GPA: 3.83), University of Idaho, May 2023

Teaching Experience:

University of Idaho, Vandal Tutoring, Fall 2022 – Spring 2023

Mathematics and Computer Science Tutor. Assisted students with Discrete Math, Calculus Series, Data Structure / Algorithms, and More.

Research:

Undergraduate Research (Ongoing), 2022-

Research Mentor, Dr. Alexander Woo, University of Idaho

Python implementation of standard permutation algorithms (converting between 1-line, disjoint cycles, transpositions) and implementations of metrics on the symmetric group. Extended the Hadjicostas-Monico condition for shallow elements to the Type B group of permutations.

Grants:

NSF- Sponsored Research Training Grant: Optimization and Inversion for the 21st Century Workforce, Fall 2023 – Onwards, (\$34,000)

Talks:

Analytic Number Theory in Fourier Analysis

Presented about Fourier Analysis results up to the proof of the Analytic Continuation of the Gamma Function to the whole complex plane. Including the definition and intuition

of the Mellin Transform, the Poisson Summation Formula, and the Principle of Analytic Continuation.

Graph Theory and Deterministic Search Algorithms

Presented about basic aspects of graph theory, including the utility of framing problems in terms of Graph Theory. Explanation of the basics of depth first search, and its applications in Artificial Intelligence to Pathfinding, Constraint Satisfaction Problems, and Adversarial Search.