

# Michael Reidy Jr.

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## Education

### University of Rochester

Sept 2021 – May 2025

Bachelor of Science in Computer Science, Mathematics Minor (GPA: 3.84/4.0)

- **Relevant Coursework:** End-to-End Deep Learning, Machine Vision, Computational Complexity, Data Structures and Algorithms, Honors Calculus, Linear Algebra
- **Awards:** Dean's List (6 semesters), Xerox Technology Scholarship, Undergraduate Research Grant

## Work and Research Experience

### Complexity and Social Choice Researcher

Rochester, NY

National Science Foundation REU; Advised by Dr. Lane Hemaspaandra

Sept 2023 – June 2024

- Formalized 11 polynomial-time algorithms and 3 NP-completeness proofs, expanding research into a more natural representation of modeling electoral control by partitioning with fixed set limitations
- Analyzed the algorithmic accuracy and Big-Oh complexity of 2 papers that claimed to resolve the P vs NP problem, resulting in 2 critiques that were reviewed and uploaded to arXiv.org
- Served as a referee for 2 computational focused papers for the 49th International Symposium on Mathematical Foundations of Computer Science (MFCS 2024), providing detailed feedback and making acceptance recommendations

### AI-Generated Content Researcher

Rochester, NY

Undergraduate Researcher; advised by Dr. Jiebo Luo

Mar 2023 – Dec 2023

- Designed and implemented 5 deep-learning classifiers for detected AI-images, including 3 fine-tuned Convolutional Neural Networks (CNNs) and 2 feature extractors based on Bayer arrays artifacts
- Achieved above-human performance (ranging from 73% to 86% accuracy) on a composite dataset containing 1,460 genuinely captured images and 1,340 AI-generated images
- Primary author of a paper published in the IEEE International Conference on Big Data 2023, which includes the findings of these models

### Undergraduate Teaching Assistant and Workshop Leader

Rochester, NY

U of R CSC 172 Data Structures and Algorithms

Sept 2022 – Apr 2023

- Taught 17 undergraduates both theoretical concepts of data structures and their practical implementations in Java
- Developed and led 11 lesson plans on core data structures, including linked-lists, stacks, queues, trees, heaps, graphs
- Investigated the effect of recall questions on students' academic performance to inform teaching strategies, resulting in over 64.7% of students reporting higher engagement during lessons

## Publications

### Investigating the Effectiveness of Deep Learning and CFA Interpolation Based Classifiers on Identifying AIGC

Dec 2023

Michael Reidy, Henry Mallon, Jiebo Luo

DOI: [10.1109/BigData59044.2023.10386096](https://doi.org/10.1109/BigData59044.2023.10386096) [🔗](#)

### On Czerwinski's 'P!=NP relative to a P-complete oracle'

Dec 2023

Michael Chavrimootoo, Tran Duy Ahn Le, Michael Reidy, Eliot Smith

DOI: [arxiv.org/abs/2312.04395](https://arxiv.org/abs/2312.04395) [🔗](#)

### A Critique of Chen's 'The 2-MAXSAT Problem Can Be Solved in Polynomial Time'

Feb 2024

Tran Duy Ahn Le, Michael Reidy, Eliot Smith

DOI: [arxiv.org/abs/2404.00006](https://arxiv.org/abs/2404.00006) [🔗](#)

## Skills and Frameworks

**Languages:** Python, Java, MATLAB, HTML, CSS, JavaScript, LaTeX

**Technologies:** Git, Overleaf, Figma, Tkinter, React, Flask, Pytorch