

Joseph R. Morrissey

jrm15@illinois.edu • 847-744-0107 • Park Ridge, Illinois

Education

University of Illinois at Urbana-Champaign

Cumulative GPA: 3.93/4.00

Bachelors of Science in Computer Science, Minor in Mathematics

Expected: May 2025

- James Scholar with Dean's List recognition Fall 2021, Spring 2022, Fall 2022, Spring 2023
 - Languages: C++ (Advanced), Python (Advanced), Lua (Intermediate)
 - Relevant Coursework: Probability & Statistics for Computer Science, Data Structures, Computer Architecture, Computational Photography, Numerical Methods, Fundamental Mathematics
 - Recreational Organizations: Illinois Golf League, Intramural Volleyball, Intramural Spikeball, Rock Climbing Club
-

Work Experience

Novaspect Inc.

Schaumburg, IL

Software Engineer Intern

Present-August 2023

- Interning on the digital transformation team for summer 2023

Private Tutor

Park Ridge, IL

Math Tutor

February 2021-July 2022

- Went to clients' houses for one-on-one tutoring, where I tutored students from Algebra 2 up to Calculus
- Created individualized study plans and practice problems for clients, while also including helpful study habits and exam strategies

Mathnasium Learning Center

Park Ridge, IL

Math Tutor

July 2020-July 2021

- Learned how to adapt to different kids' needs, age, and skill ranges
 - Tutored up to 5 students of different levels simultaneously to help complete homework assignments and work with them through Mathnasium's curriculum
 - Directly interacted with parents and updated them on their children's progress
-

Projects

Painting Without Paint

- Implemented *Image Analogies* (Hertzmann et al.).
- Take an unfiltered-filtered picture pair and an unfiltered image as input, and return an output image that completes the analogy. Generate feature vectors over the gaussian pyramids of the luminance channels of each image. Compare an approximate nearest neighbor search using a KDtree with a pixel that minimizes an objective function to find the best matching pixel for the output image
- Combined the Image Analogy method with two other group members implementation of *Color transfer between images* (Reinhard et al.), allowing us to produce images that mimic an artists' style

Graph Algorithms and Visualization

- Implemented a breadth first search, shortest path algorithm (Dijkstra), and minimum cut algorithm (Stoer-Wagner) on a dataset that modeled Wikipedia articles as nodes and the links between them as edges
- Used a barebones graphics library and C++ to visualize the shortest path between two articles and the first 100 articles of a breadth first search

Portfolio Website

- Can be accessed at <https://jmorrissey23.github.io/Personal-Website/>
 - Utilized HTML and CSS to create a responsive website
 - Showcases past projects with explanations on implementation details, design choices, and additional results
-

Organizations

Association for Computing Machinery

Member (September 2021- Present)

Phi Gamma Delta Fraternity

Member (February 2022–Present)