

Joseph R. Morrissey

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EDUCATION

University of Illinois Urbana-Champaign

Cumulative GPA: 3.93/4.00

Bachelor of Science in Computer Science, Minor in Mathematics

Expected: May 2025

Honors: Edmund J. James Scholar, Dean's List (All semesters)

Relevant Coursework

- Data Structures and Algorithms, Algorithms and Models of Computation, Deep Learning for Computer Vision, Computational Photography, Numerical Methods, Computer Architecture

Technical Languages

- C++, Python, Lua, HTML, CSS

WORK EXPERIENCE

Novaspect Inc.

Schaumburg, IL

Software Engineer Intern

May 2023 – August 2023

- Developed a historian synchronization microservice for an industrial automation software platform using TCP/UDP data pipes and Lua socket programming, resulting in a \$5,000 client proof of concept
- Expanded over 100 endpoints for a remote debugging API to enable low latency integration with platform proprietary libraries, faster error detection and troubleshooting, and an overall smoother development experience
- Integrated an internal user story development interface with a microservice architecture platform using Lua and React JSON Schema to optimize Agile workflow and streamline client communication

CS 361 Undergraduate Course Assistant

Champaign, IL

Probability and Statistics for Computer Science

August 2023 – Present

- Answered students' questions on the course forum pertaining to probability, statistics, and their application to computer science
- Developed new homework questions to test students understanding of course content
- Graded homework questions of over 350 students

PROJECTS

Painting without Paint

- Implemented *Image Analogies* (Hertzmann et al.), which takes an unfiltered-filtered picture pair and an unfiltered image as input, and returns an output image that completes the analogy
- Generated feature vectors over the gaussian pyramids of the luminance channels of each image. Compared 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
- <https://github.com/jmorrissey23/Image-Analogies>

Wikipedia Analysis

- Implemented a breadth first search, shortest path algorithm (Dijkstra), and minimum cut algorithm (Stoer-Wagner) on a Wikipedia dataset to investigate the interconnectedness between Wikipedia articles
- 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
- <https://github.com/jmorrissey23/Wikipedia-Analysis>

ORGANIZATIONS

Association for Computing Machinery

Member (September 2021 – Present)

Phi Gamma Delta Fraternity

Member (February 2022 – Present)