

# Kathryn O'Neil

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## EDUCATION

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### Northeastern University | Boston, MA

M.S. in Computer Science | GPA: 3.67

May 2025

**Relevant Courses:** Programming Design Paradigm, Web Development, Mobile App Development, Algorithms, Computer Systems, Database Management

**Current Courses:** Computer/Human Interaction, Data Mining

### Merrimack College | North Andover, MA

B.S. in Computer Science; Minors in Mathematics & Psychology | GPA: 3.35

May 2023

**Relevant Courses:** Problem Solving with Programming, Data Structures, Object Oriented Design, Operating Systems, Computer Architecture, Analysis of Algorithms I, Database Principles, Computer Graphics, Theory of Computation, Linear Algebra, Cybersecurity Directed Study.

## TECHNICAL SKILLS

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### Programming Languages:

**Most Knowledgeable in:** R, MySQL, Java, HTML, CSS, JavaScript, SQLite

**Exposure to:** C, Python, MIPS Assembly, C#, Linux, OpenGL

**Frameworks & Tools:** React, Node.js, Bootstrap, Git, GitHub, MongoDB, Aiven

**Software:** VSCode, NetBeans, Android Studio, IntelliJ, RStudio, Replit, Google Cloud VM, MySQL Workbench

## PROJECTS

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### Wildlife Strikes Database: *Database Management Systems*

October 2024 - November 2024

- Developed a database to analyze and manage data related to wildlife strikes on aircraft. This project involves creating a normalized relational schema, loading data from CSV files using batch insertion techniques for large datasets, and executing SQL queries for analysis in R. The database is hosted on Aiven, enhancing accessibility for stakeholders.

### Server-Based Remote File Storage System: *Computer Systems*

October 2024 - November 2024

- Designed and implemented a multi-threaded client-server file system in C to facilitate remote file storage and management. Used TCP socket communication for data transfer between clients and the server. Implemented file read/write operations, permission management, and encryption to enhance security and access control. Ensured fault tolerance and efficiency, allowing seamless remote file access across different systems.

### Pi Pal: *Mobile App Development*

January 2024 - April 2024

- Collaborated with three other students to develop a mobile application designed to make math learning fun for elementary-aged children. The app features a user-friendly interface that adapts to each child's skill level, offering personalized challenges in basic arithmetic and advanced concepts. Integrated an API for solving math problems. Utilized Android Studio for overall app development and ensured seamless functionality across various devices.

## **Photo Editing Application: *Programming Design Paradigm***

September 2023 - December 2023

- Collaborated with one other student to create an image processing application with both text-based and interactive GUI-based user interfaces. The system supports various image processing effects. The application can handle popular image formats such as ASCII PPM, JPG, and PNG and incorporates a flexible text-based scripting system as well as an interactive GUI for all the available interactions.

## **Computer Science Capstone: *Software Engineering***

September 2022 - December 2022

- Dashboard to analyze data to conduct STEM education research for Merrimack College with ability to be used from K-12 schools as well. Currently used for STEM grant research. User-Friendly web-based site that allows users to upload data within a specific format. With this data users can generate graphs and perform statistical analysis between sets of data. Users have the ability to create accounts through Google as well as a personal email. Emphasis on data visualization.

## **PROFESSIONAL EXPERIENCE**

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### **MWV Multimedia Forensics, Fall River, MA**

June 2022 - Present

- Work with many different legal cases. Write case summaries to be forensically evaluated. Log evidence chain of custody as well as evidence locker. Use applications like Cellebrite to collect digital data from cellular devices and hard drives. Enhance and clarify many audio and video files. Examine hard drives and a client's stored files (documents, pictures, etc.), access to files and folders (dates and times), email files (locally stored and web-based), search histories on different sites, social media, internet history, chat files for different apps.

### **Concorde Education Tutor, Various Locations**

August 2024 - Present

- Provides tutoring services, offers academic support in various subjects to students. Assists with creating personalized learning plans and addresses individual student needs. Fosters a positive learning environment by encouraging student engagement and progress.

### **Mathematics Department Tutor/Teaching Assistant, North Andover, MA**

August 2021 - December 2022

- Algebra Teaching Assistant. Spent around five hours a week in the same algebra class. Answered questions and taught certain problems. Clarified questions and note the students that seem to need help. Trained through the training in Campus Tutor Professional Development at Merrimack. Held study hours and final review sessions

### **iTEC Peer Mentor, North Andover, MA**

August 2021 - January 2022

- Mentored first semester freshman through study group every Thursday for homework questions and study guide help. Made sure to check in with students, provide polls for good times to meet and make sure each student knew they were welcome to come to me for help.

## **OTHER EXPERIENCE**

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### **Participant at CCSCNE Convention, Ithaca, NY**

April 2023

- Presented our capstone project during a presentation panel, listened to many informative talks and discussions, and attended workshops to further education and professional development.