Joseph **McLaughlin**

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Education

Carnegie Mellon University   *Pittsburgh, PA*

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, GPA: 3.87/4.0   *Expected May 2025*

- Selected Course Topics: Parallel Algorithms, Computer Systems, Theoretical Computer Science, Machine Learning, Data Structures and Algorithms, Human-Computer Interaction, Probability Theory, Functional Programming.

Experience

CMU Human-Computer Interaction Institute   *Pittsburgh, PA*

UNDERGRADUATE RESEARCHER   *May 2023 - August 2023*

- Design and implement a Python script to compile Stable Diffusion image generation results and transform into a single image.
- Automate posting daily comparisons of results to a forum using AWS Lambda, crucial to driving traffic to the forum.
- Develop a Twitter bot to share comparison results and generate awareness of biases in current AI models.

Carnegie Mellon University   *Pittsburgh, PA*

TEACHING ASSISTANT   *January 2023 - Present*

- Lead weekly recitations and office hours supporting 200+ students in learning parallel algorithm design and functional programming concepts in Standard ML for Carnegie Mellon's "Parallel and Sequential Data Structures and Algorithms" course (15-210).

SUPPLEMENTAL INSTRUCTION LEADER   *August 2022 - May 2023*

- Led weekly review sessions, designed review materials, and provided tutoring for Carnegie Mellon's "Principles of Imperative Computation" (15-122), a 400+ student Data Structures and Algorithms and C programming course.

Pennsylvania Governor's School for the Sciences   *Pittsburgh , PA*

TEACHING ASSISTANT / COUNSELOR   *June 2022 - July 2022*

- Taught programming fundamentals and minimax algorithm design for turn-based games in Python and Java to 70+ students in a five-week course.

Projects

Binder   *Website*

CO-DEVELOPER   *March 2022 - Present*

- Develop and maintain a Rails application to facilitate tool transactions and distribution in Ruby using a MySQL database.
- Used by 20+ student organizations and 200+ users for Carnegie Mellon's Spring Carnival, and critical to the event running smoothly.

DFA Simulator   *Github*

DEVELOPER   *April 2023 - June 2023*

- Created a website to interactively design and test Deterministic Finite Automata using JavaScript, CSS and HTML.
- Supports creating, naming, moving, and deleting states and transitions, and stepping through inputs to the created DFA.

Cycling Blog   *Github*

DEVELOPER   *July 2023 - Present*

- Design a website to view cycling trip posts with an interactive map using Next.js and an associated MongoDB database.

Blackjack Simulator   *Github*

CO-DEVELOPER   *February 2023 - Present*

- Develop a terminal interface for simulating and testing Blackjack playing and betting strategies in Python.

Skills

Languages   Python, C, C++, Java, Javascript, HTML, CSS, Ruby, Standard ML

Other   Rails, React, Next.js, AWS, SQL, MongoDB, PyTorch, Git