

# Harrison Hutton

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## EDUCATION

### UNIVERSITY AT BUFFALO

BS/MS IN COMPUTER SCIENCE

BS IN APPLIED MATHEMATICS

BA IN PSYCHOLOGY

MINOR IN PHYSICS

Expected May 2023 | Buffalo, NY

Cum. GPA: 3.84

Deans List for 6 semesters

## COURSEWORK

### UNDERGRADUATE

#### Computer Science

Data Structures

Software Engineering

Quantum Algorithms

Programming Languages

Systems Programming

Algorithms and Complexity

Computer Architecture

Distributed Systems (Graduate)

#### Mathematics

Advanced Calculus

Discrete Math

Linear Algebra

Ordinary Differential Equations

Partial Differential Equations

Real Analysis

Abstract Algebra

Game Theory

## SKILLS

#### Programming Languages

Python • C • Angular/Typescript

OCaml • JavaScript

#### Markup Languages

HTML • CSS • LaTeX

#### Software

Git • Github • GitLab • Zenhub

JetBrains IDEs • VS Code • Jupyter

Notebook • XCode • Terminal

## PROJECTS

### DYNAMIC MEMORY ALLOCATOR (PRIVATE REPO)

November | Buffalo, NY

- Developed a dynamic memory allocator for UNIX systems in **C** with pool allocation and implemented malloc, calloc, realloc, and free functions from scratch.

### FUNCTIONAL LANGUAGE INTERPRETER (PRIVATE REPO)

February 2022 – May 2022 | Buffalo, NY

- Designed an interpreter in **OCaml** by leveraging pattern matching and mutually recursive definitions of types and functions.
- Implemented support for first-class and recursive functions as well as in/out parameters.

### MINOR PROPHETS | DEVELOPER

September 2021 – December 2021 | Buffalo, NY

- Developed, in an **Agile** environment, a fast-paced, multiplayer, music-trivia game for my **Software Engineering** course.
- Prioritized professional organization by writing **user stories** on **Zenhub**
- Integrated the **Spotify API** via the **Spotipy** Python library to randomly generate trivia questions based on current, popular music.
- Engineered the question timer **React** component to handle automatic redirection.

### "RISK" DICE ROLL CHANCES

July 2021 | Franklin, NC

- Utilized **combinatorics** to algorithmically compute the chances of winning a dice roll in Risk, via **Monte Carlo** methods.
- Produced visual results by programming a solution in Python and then interpreting **JSON** data in Excel.

## EXPERIENCE

### UNIVERSITY AT BUFFALO | SENIOR TEACHING ASSISTANT

September 2020 – Present | Buffalo, NY

- Supervised and motivated groups of 20 computer science students through weekly lab activities (**200+ students total**).
- Communicated key ideas and practices to classes of 25 students through the teaching of weekly recitations (**125+ students total**).

### M&T TECH (FORTUNE 500 BANK) | TECH INTERN

June 2022 – August 2022 | Buffalo, NY

- Developed and stylized a front-end document search platform using **Angular** and **Bootstrap** for internal banking services.
- Saved M&T \$4 million per year going forward by producing a central user-interface where employees can probe every internal document repository.

## RECOGNITIONS

|      |  |
|------|--|
| 2021 | National Society of Leadership and Success Member            |
| 2019 | UB Marching Band Rookie of the Year                          |
| 2018 | Clarkson University Leadership Award (Financial Scholarship) |