

Jack Dunfey

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EDUCATION

University at Buffalo, The State of University of New York
Bachelor of Science in Computer Science

GPA: 3.92
August 2022 – Present

COMPUTER SCIENCE PROJECTS

Supervised Penetration Testing: OWASP ZAP

- Worked with a professor to find vulnerabilities in a real project with consent of the owner
- Used XSS to create an in-site self-replicating worm and a false login page with URL spoofing

UB Class Finder: Node.js, HTML, CSS, JS, React, SQL

- Enabled students to intuitively search for classes based on classroom, time, and week day
- Organized nearly 3,000 course records into a relational database for efficient searching operations
- Developed the front-end by enlisting the help of a peer who was competent with the React framework
- Allowed students to easily find open rooms and see how long until the room will be available

FIRST Robotics Competition 2022 Rapid React: python, Java, OpenCV, PID controllers

- Oversaw 5 other students to develop a computer vision program that the robot utilized to navigate to a ball, pick it up, and shoot it into a circular hoop regardless of the distance
- Led 2 other students to develop the robot's autonomous operations

Graphing Calculator: JavaFX, abstract syntax tree and grammar construction

- Designed and implemented an intuitive GUI to enable user I/O through JavaFX
 - Parses a user-entered equation and graphs it along a specified domain and range
- Wordle Solver:**
python, OpenCV
- Simulates keyboard input to enter a guess on the NY Times wordle
 - Evaluates the current board through computer vision with Python's OpenCV2 library

Hamming Code in Assembly: MIPS

- Created an intuitive text-based UI
- Implements the encoding and decoding of data in Extended Hamming [11, 15+1] SECDED ECC

MIPS Processor: SystemVerilog

- Used gate-level Verilog to design a limited subset of the MIPS single-cycle processor
- Implemented a 32-bit ALU using gate-level Verilog with overflow and zero detection
- Wrote a formal project report that included diagrams, technical summaries, and data analysis

WORK EXPERIENCE

Welcome Weekend Leader, UB OTPP Department, Buffalo, NY

August 2023 – September 2023

- Welcomed over 3,000 new students to University at Buffalo's campuses
- Managed large audience presentations and ice-breaker activities

Undergraduate Teaching Assistant, UB Dept. of CSE

August 2024 – December 2024

- Algorithms, Computer Security
- Will guide students through common attacks across a variety of disciplines
- Will handle grading for around 100 students

AWARDS & INVOLVEMENT

Eagle Scout, Boy Scouts of America

September 2023

Member, Tau Beta Pi (International Engineering Honor Society)

December 2023 – Present

Recipient, Google Cybersecurity Professional Certificate

January 2024 – Present

Dean's list, School of Engineering and Applied Sciences

2022 – Present

Member, Association for Computing Machinery

August 2022 – Present

Trainee, National Youth Leadership Training

Summer 2021