Jesse Both

Computer Engineer

Portfolio GitHub LinkedIn jesse.both9@gmail.com (716) 218-9712

Education

STATE UNIVERSITY OF NEW YORK AT BUFFALO

Bachelor's of Science in Computer Engineering

Fall '18 – Spring '22

- GPA 3.57 / 4.0
- Dean's List: Fall 2021, Spring 2021

Experience

TEACHING ASSISTANT | State University of New York at Buffalo

Fall '21 – Spring '22

- **Course: Introduction to Microprocessors**
  - Hosted lab sessions to assist students with ARM assembly topics and assignments with Tiva-C microprocessor.
  - Conducted office hours and provided additional lecture materials to students.
  - Assisting departmental officials in grading and student assessment after a semester.
- **Course: Computer Organization**
  - Conducted lab sessions to assist students with MIPS assembly concepts and assignments with QtSpim.
  - Hosted office hours and aided departmental officials with lecture and project content.

Projects

ROBOTIC ALGORITHMS | C++, Linux

2022

- Implemented algorithms like BUG2 and A* using ROS (Robot Operating System).
- Applied concepts of data structures and algorithms to find the most efficient path for the robot to move according to the algorithm.
- Utilized linear algebra and odometry data of the simulation to produce movement and obstacle avoidance skills for the robot.

GAMES ON MICROPROCESSOR | C, ARM Assembly, Tiva-C MCU

2021

- **2048**
  - Implemented the game 2048 with C and assembly in order to explore the interaction between the two.
  - Utilizes displays in the terminal via UART and can be controlled with key WASD or a 4×4 matrix keypad.
  - Implemented by the university as the final project (Spring 2022) of Introduction to Microprocessors.
- **FlowFree**
  - Implemented completely in Assembly.
  - Utilizes visual interfaces like the terminal to output with keyboard keys WASD as input.

CALENDAR | Scala, JavaScript, HTML/CSS, Shell, Raspberry Pi

2020

- Initiated the implementation of a program to stay organized when all classes moved online due to the pandemic.
- Designed to display the days schedule, running on a Raspberry Pi.
- Parses data from Google calendar in Scala and displayed data by a webpage.
- Runs shell scripts at startup to initialize the system.

Skills

PROGRAMMING

Proficient:

C • JS • Python
Assembly (ARM, MIPS, x86)

Experienced:

C++ • Scala • HTML/CSS
LaTeX • Verilog • MATLAB
AutoHotKey

Familiar:

Lua • Shell

HARDWARE

ARM Cortex-M4 • Arduino
Raspberry Pi • Teensy • Nucleo
NodeMCU • 3D Printing

SOFTWARE

Git • VirtualBox • Fusion 360
Excel • Microsoft Office • ROS
Xilinx • Intellij • VScode

OPERATING SYSTEMS

Windows • Ubuntu • macOS

Coursework

SOFTWARE

Robotic Algorithms
RTOS / Embedded
Operating Systems
Data Structures
Systems Programming
Computations Intelligence

HARDWARE

Integrated Systems
Embedded Controls
Microprocessors
Electronic Devices
Circuit Analysis