Dylan OBrien

obriend7@wit.edu | (857) 526-1914 | Quincy, MA | Available June-August 2025

www.linkedin.com/in/dylan-v-obrien

EDUCATION

Wentworth Institute of Technology | Boston, MA

Bachelor of Science in Computer Engineering, GPA: 3.5/4.0

Minor in Computer Science, Minor in Applied Mathematics, 6x Dean's List and Merit Scholarship

RELATED COURSES: Object Oriented Programming for Engineers (C++), Applied Programming (Python, SQLite), Data Structures (Java), Algorithms (Java), Machine Learning (R/Python), Computer Science I & II (Java), Microcontrollers Using C Programming (C), Advanced Digital Circuit Design, Computer Architecture, Linear Algebra and Matrix Theory, Operating Systems

SKILLS

LANGUAGES: Python, C++, C, C#, Java, SQLite, ARM64X, Verilog

SOFTWARE: Visual Studio, Eclipse IDE, Git/GitHub, MATLAB, Multisim, Logisim, Quartus Lite, Microsoft Office (Excel, Word, PowerPoint), VirtualBox, SolidWorks, Autodesk

TEST INSTRUMENTS: Oscilloscope, function generator, digital multimeter, power supply, waveform generator, Breadboard

DEVICES: Raspberry Pi, 3D Printer, Altera DE10-Lite microcontroller, STM32F407G-DISC1 microcontroller, Arduino

OPERATING SYSTEMS: Windows XP – Windows 11, Linux

PROJECTS

VR-Controllable robot over Wi-Fi | Engineering Senior Design I & II   January-August 2024
- Combined a multitude of hardware and software elements to create a robot with remote vision and movement through a Virtual Reality headset and controllers
- Utilizes a Raspberry Pi 5 to handle motor control through the pins, stereoscopic vision using the dual camera ports unique to the Pi 5, and remote data transfer and connectivity via the on-board WiFi chip
- All code on the Pi is written in **Python** and uses sockets to transfer and receive the camera/motor data, which have been broken down into a stream of bytes, to the host machine running the VR application
- Data from the Pi is received by the **Unity** application running on the host machine and uses **C#** scripts to receive the camera/motor data and send back controller joystick positions in order to move the robot

Interactive Solar System Simulation | Applied Programming   April-August 2023
- Collaborated with other engineering students to accurately simulate our solar system using real astronomical data on planetary positions and solar events (comets, asteroids, solar flares, important historical events, etc.)
- Extensive use of **Python** and its libraries to calculate elliptical orbit and speed of each planet, pull information from **SQLite** databases, and create an immersive and interactive GUI with buttons, menus, and music

Microcontroller Oven Simulation | Advanced Digital Circuit Design   April-August 2023
- Thoroughly explored the features and functions of the Altera DE10-Lite microcontroller by employing software-assisted logic schematic entry and **Verilog**, a hardware description language, to simulate the functions of a kitchen oven
- All aspects of the board are used, such as the LEDs, buttons, switches, clocks, and 7-segment displays to convey switching between oven temperature and setting a cooking timer

Grocery Line Simulation | Data Structures   October 2022
- Employed concepts of data structures and object oriented programing in **Java** to simulate single-line and multi-line checkout in a grocery store
- Incorporates the use of queues and lists of customer objects who hold and update their data independently
- Analyzed resulting data in excel plot to compare effectiveness under differing customer loads

ENGINEERING EXPERIENCE

FIRST Robotics | Quincy, MA

Coding team Vice-captain   September 2018 – February 2020
- Planned for both an autonomous and operator phase for competing robots
- Designed program in **Java** for robot to recognize reflective tape and move based on its viewing angle

ADDITIONAL EXPERIENCE

Wentworth Tutoring | Boston, MA

Math Tutor   October – December 2021
- Assisted other students in foundational classes such as calculus and physics
- Taught more effective studying strategies based on individual needs and preferences