

# Michael D'Arpino

XXXXXX | XXXXXXXXXXXXXXX | XXXXXXXXXXXXXXX | mdarpino507@g.rwu.edu

## OBJECTIVE

---

Engineering student with strong foundation in a variety of programming languages as well as hardware design seeking to obtain a position that allows for the application of machine learning and systems integration in a design, development, and testing environment.

## EDUCATION

---

### Roger Williams University, Bristol, RI

*Bachelor of Science in Engineering, Specialization: Computer (ABET Accredited)*

May 2021

GPA: 3.931

## RELEVANT SKILLS

---

**Computer:** Java, C, C++, JavaScript, HTML, SQL, Python

**Software:** SolidWorks, Microsoft Office Suite, Auto CAD, MATLAB, Logisim, Multisim, LTspice, Eclipse

**Courses:** Electronics, VLSI, Digital Systems Design, Circuit Theory, Mechatronics

## ACADEMIC PROJECTS

---

### Automated Microarray System, RWU | *Senior Design*

- Began with the task of dispensing droplets of water onto a plate to be observed with the use of step motors and coding an Arduino, providing the user with an easy to comprehend UI to customize the output of the system
- Kept meticulous records and completed numerous group presentations throughout the entirety of the design process explaining things such as project goal, problems encountered, potential solutions, and applications
- Collaborated with three other group members to generate a working schedule and partitioned portions of the project based on unique knowledge and strength of each member while simultaneously allowing for cross work and criticisms

### Robot Design, RWU | *Mechatronics*

- Hand crafted a dynamic robot capable of traveling to a load bay, distinguishing between black and white cubes, loading the cubes, and delivering them to their appropriate location with the implementation of various circuit elements including photosensors, and developed finite state machine based Arduino code
- Met various design deadlines throughout the fabrication and implementation process, proving that regular group meetings were being held and in depth notes of the design process experienced were being recorded
- Developed smart machinery capable of performing its task on command multiple times without aid or real time mechanical corrections

### Video Card, RWU | *Digital System Design*

- Designed and implemented H-sync and V-sync circuits using hardware including 4-bit binary counters, hex inverters, 8-input NAND gates, quad 2-input NAND gates, and a 10MHz oscillator
- Reviewed hardware schematics to create an RGB output to transfer the data of the circuit to a computer monitor
- Sampled outputs for accuracy during the design process via LED inputs
- Composed a multi-page report highlighting procedural methods, forms of analysis, and complications encountered following standards set by IEEE

### 8-Bit Virtual Adder, RWU | *VLSI*

- Composed a circuit diagram for a functional 8-bit adder using LASI technology and adhering to common practice rules
- Formed multiple ordered layers of circuitry beginning with the most basic p-well and n-well design and connecting this building block to higher orders of the circuit with the use of vias and metal contacts
- Auto generated Verilog code laying out various sub circuits and applied both parasite capacitances and variable voltage inputs to the digital circuit and graphed the upper level outputs in LTspice to confirm functionality

### Web Browser, RWU | *Data Structures*

- Wrote code using a variety of methods and built in Java functions such as stacks, queues and file read ins to form a web browser capable of searching a displaying web results
- Included in the web browser was a functional back, forward, and refresh button as well as a location to make search inquiries into the search engine and a portion to make direct website searches
- Constructed a user interface capable of displaying all the web browser information with functional button operations via JavaFX

## **LEADERSHIP EXPERIENCE**

---

**Engineers Without Borders**, Bristol, RI | *Project Generation*

- Developed practical fundraising activities and provided insight on implementation of water fountains in third world countries and how to dispose of excess water
- Assembled prototype water fountain designs as well as conducted in depth analysis and physical testing of viable water drainage options
- Attended conferences as a representative and implemented what was learned to allow the club to further advance with a larger outreach

## **WORK EXPERIENCE**

---

**Christy's Auto Body**, Providence, RI | *Car Cleaner*

Jun. 2015 – Present

- Rigorously inspected all company owned vehicles for cosmetic damages
- Vacuumed the interior, cleaned the windows, and cleaned the exterior of the rental cars
- Arrived at scheduled appointments punctually and provided face to face employee-client interaction