Mark Johnston

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GitHub – MJ9001

**Experience**

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| **Software Engineering Intern – Boeing** | *5/2019-8/2019* |

* Focused on a project to flash a variety of legacy cards using several I/O devices in parallel.

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| **C++ Tutor – VCU** | *8/2018-2019* |

* Learned to catch bugs in others’ code quickly and help others learn entry programming techniques.

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| **Team Lead for Robotics Competition – IEEE SoutheastCon** | *8/2018-4/2019* |

* Learned invaluable leadership skills and designing a device from conception to production.

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| **Senior Design Team Lead – VCU(TurtleGuardian)** | *8/2019-5/2020* |

* Designed a embedded system that watches turtle nests which reads data, which is then sent to a server to be processed.

**Education**

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| **Virginia Commonwealth University** | Bachelor of Science in Computer Engineering | Graduation: *5/2020* |
| Bachelor of Science in Computer Engineering  GPA: 3.4/4.0 |  |
| **Rappahannock Community College** | Associate’s Degree in Pre-Engineering. | Graduated: *4/2017* |

**Skills**

* **Development**
  + Proficient: C/C++, C#, .NET, Java, VHDL, Python, ARM, Type/JavaScript, HTML/CSS, JVM, MATLAB.
  + Previous experience: Assembly(x86), Visual Basics, Lua, SQL, ASP.NET
  + Visual Studio, VS Code, NetBeans, Eclipse, IntelliJ, Git, Studio5000(ladder logic software), ModelSim, Xlinix, Vivado, Android Studio, OpenCV, Putty, Office/Libre Products, Photoshop/Gimp, terminal, QEMU/KVM, DSP.
  + Setup and maintained servers for websites/games/self-written programs.
  + Strong foundational knowledge of both Windows and Linux and their respective systems.
  + Finding libraries/configuring/troubleshooting libraries to work with programs.
  + Experience with vision development and algorithms.
  + Able to pick up new programming languages and platforms quickly.
  + Experience using debuggers effectively in various programming languages.
* **Reverse Engineering**
  + Experience with IDA, .NET Refractor, Ghidra, Wireshark, WindDbg, and general assembly modification/hooking.
* **Embedded Devices**
  + Experience with Raspberry Pi, Arduino, PIC32, BASYS2 FPGA Board, ZYBO Z7, stm32l476(ARM board)
* **Personal**
  + Able to quickly learn and adapt to new software technologies.
  + Good at presenting and working with a diverse range of people.

**Independent Projects**

* **Developed an audio visualizing device using pixel drivers.**
  + Gained experience in serial communication, including Bluetooth.
  + Overcame issues like bit corruption, limited baud rate (38400) while transferring a large amount of data per second. (256 RGB LEDs @60Hz)
* **Developed a multiplayer 2d block game using Slick2D(graphics library).** 
  + Increased knowledge of networking principles in a real-time environment.
  + Developed a physics engine including gravity, collision velocity, and objects changing size.
* **Created compiler for compiling C code to JVM bytecode**
  + Learned parsing, regex, scanning, and how high level code links to low level.
* **Large game mods, many small programs for various applications, lots of hardware hacks.**
* **Developed portfolio website using Angular and TypeScript. (MarkJohnston.dev)**