

Matthew J. Barichello

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SYSTEMS INTEGRATOR
SOFTWARE DEVELOPER
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Experience

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|----------------|--------------|--|
| May 2019 | - present | Optimotive Technologies (Contractor) , <i>Windsor, Ontario</i> <ul style="list-style-type: none">Contractor for electrical engineering and software development. |
| December 2018 | - present | No Generics Ltd. (CEO) , <i>Belle River, Ontario</i> <ul style="list-style-type: none">Scalable cloud virtualization with a 10Gbe intranet back-plane for instantaneous storage accessGame server hosting with segregated virtualization containers and isolated networkingSoftware development and electrical engineering contractor |
| February 2018 | - present | Programming and Computer Science Tutoring , <i>Assumption College High School</i> <ul style="list-style-type: none">Private online Java programming tutoring during weekdays after schoolIn-class Java programming and computer science conceptual tutoring |
| September 2015 | - June 2017 | Programming and Electrical Engineering Mentor , <i>Assumption Robotics Club</i> <ul style="list-style-type: none">Taught and mentored Java and C programming and circuit design and implementation in robotics |
| 2013 | - March 2019 | Multi-tiered Networking and Server Deployment , <i>Blind Beast Servers, Home Lab</i> <ul style="list-style-type: none">Deployed fault tolerant continuous integration, git repository and DNS caching servers across multiple hosts in the cloudDeployed a lights-out, fully-encrypted PXE boot based KVM cluster over 10Gbe, with redundant 1Gbe seamless fallback routes and isolated management NICs, utilizing mixed consumer-grade and industrial computing solutions |

Projects

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| Jan 2019 | - present | fake-jni - C++, CMake, JNI, JVMTI <ul style="list-style-type: none">A C++ library for seamlessly implementing Java classes completely in native code. Designed specifically for removing the overhead of a running JVM instance from a JNI native library, with minimal API boilerplate and dynamic linking support |
| Jan 2019 | - present | 18650 Hybrid Power-wall and UPS - C++, CMake, C, Embedded Electronics <ul style="list-style-type: none">Currently assembling a hybrid power-wall system from salvaged 18650 Li-Ion cells, to supply the company virtualization lab during peak grid usage hours, and to charge during off cycles in order to save on power costs. The power-wall furthermore provides uninterruptible power supply functionality, in the event that the grid supply becomes unreliable. |
| July 2018 | - present | Logic Analyzer Repair and Restoration - ESP8266, C++, CMake, Bash <ul style="list-style-type: none">Currently restoring a Philips 3585 Logic Analyzer requiring main-board component level repairs, power supply repairs, EEPROM re-flashing and custom hand-built logic probes |
| July 2018 | - present | Pal - Java, C++, Groovy, Gradle, CMake <ul style="list-style-type: none">Created a Java compiler extension that enables meta-programming through annotations, while retaining full compatibility with preexisting and future JVM and JDK specifications |

Languages & Frameworks

Languages	Java; Kotlin; Groovy; C; C++; Bash; m4; TeX ; Python; Lua; Pascal
Operating Systems	Windows; macOS; Linux (Debian & derivatives; Red Hat & derivatives; Arch)
Frameworks	OpenCL; OpenGL; Apache Commons; Processing; JNI; Coreutils; KVM; QEMU; LUKS; Systemd; Init; Cron; iproute2; iptables
Build Tools	Gradle; Maven; Ant; CMake; GNU/Make; Autotools; Waf

Education

August 2019	Quantum Cryptography School for Young Students <i>University of Waterloo</i>
September 2015 - July 2019	Ontario Secondary School Diploma <i>Assumption College High School</i>
	International Baccalaureate Certificate <i>Assumption College High School</i>
July 2015	DMA Certificate for Advanced Java Programming <i>University of Toronto</i>

Competitions

March 22-23, 2019	Massey Hacks V
December 7, 2018	15th Windsor Regional Secondary School Programming Competition
September 14-16, 2018	Hack the North 2018
April 28-29, 2018	Massey Hacks IV
April 1-2, 2017	Massey Hacks III
May 21-22, 2016	Massey Hacks II

Awards

2018	First Place Programming Team Award , <i>University of Windsor</i>
2018	First Place Hacker , <i>Massey Hacks IV</i>
2018	Best Hardware Hack , <i>Massey Hacks IV</i>
2016 - 2019	Honour Roll , <i>Assumption College High School</i>
2015	Science Proficiency Award , <i>St. William Elementary School</i>
2015	Academic Excellence Award , <i>St. William Elementary School</i>