

Matthew J. Barichello

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SYSTEMS INTEGRATOR
SOFTWARE DEVELOPER
ELECTRICAL ENGINEER

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Experience

- | | | |
|----------------|-------------|--|
| 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 access• Game server hosting with segregated virtualization containers and isolated networking• Software 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 school• In-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 | - present | 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 cloud• Deployed 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

- | | | |
|-----------|-----------|---|
| 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 linked 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, during charging cycles |
| 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; C; C++; Groovy; Bash; m4; TeX ; Python; Lua; Pascal
Operating Systems	Windows; macOS; Linux (Debian & derivatives; Red Hat & derivatives; Arch)
Frameworks	Processing; OpenCL; OpenGL; Apache Commons; Coreutils; KVM; LUKS; Systemd; IP; Iptables; Init; Cron
Build Tools	Gradle; Maven; Ant; CMake; Make; Autotools; Waf

Education

September
2015 - present

July 2015

Ontario Secondary School Diploma *Assumption College High School (ongoing)*
International Baccalaureate Certificate *Assumption College High School (ongoing)*
DMA Certificate for Advanced Java Programming *University of Toronto*

Competitions

March 23, 2019
December 7, 2018
September 14-16, 2018
April 28-29, 2018
April 1-2, 2017
May 21-22, 2016

Massey Hacks V
15th Windsor Regional Secondary School Programming Competition
Hack the North 2018
Massey Hacks IV
Massey Hacks III
Massey Hacks II

Awards

2018
2018
2018
2016 - 2018
2015
2015

First Place Programming Team Award, *University of Windsor*
First Place Hacker, *Massey Hacks IV*
Best Hardware Hack, *Massey Hacks IV*
Honour Roll, *Assumption College High School*
Science Proficiency Award, *St. William Elementary School*
Academic Excellence Award, *St. William Elementary School*