Samuel Narcisse, Jr. Eng.

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Certifications: *O.I.Q (#5066748), Citizenship (Canada/US), Driver's Lic. /***Languages**: *French, English*

PERSONAL SUMMARY

- Versatile, hardworking and highly efficient mechatronics engineer & software developer with 4+ years of international experience (Canada, China, US) in robotics, aerospace & industrial machines. Designed, developed and launched various new products from scratch and innovated from mature products to fit customer's needs.
- Tackles any multidisciplinary challenges using a combination of skills and expertise in Control Systems Design, Mechanical Design & Manufacturing, FEA, Circuit Prototyping, Embedded & RTOS Software Development and Quality Assurance. Great team spirit, dead line orientated and able to work abroad.
- A biking and sport enthusiast who made a 5-day bicycle trip from Montreal, Canada to New York City, USA.

EDUCATION

Group 3737: Specialize Professional Certification in Business & Product Launch — Aug.*2019~Dec.2019*
- Quebec's MEES Accredited. ID: CHA13597846/763403.

Polytechnic School of Montreal: Professional Masters in Electrical Eng.(3.70/4) — Aug.*2017~May 2019*
- Automation & Control Systems Major

Polytechnic School of Montreal: Bachelor in Mechanical Eng.(3.03/4) — Aug.2011~*May.2015*
- Mechatronics Major

TECHNICAL & INFORMATICAL SKILLS

Office: *Linux, MS Office, LaTeX, Vim, MS Project, Slack, Jira, DOORS.*
CAD: *Catia, SolidWorks, AutoCAD, Eagle, Spice, Fritzing, ANSYS.*
Tools+: *Milling machine, oscilloscope, lathe, drill press, function generator, metal cutting band saw, 3D printer, ARINC 429/664/653, CAN, PWM, I2C, UART, DO-178/254, TCP/IP, GD&T.*

S/W: *MatLab/Simulink, C/C++, Python, UML, Fortran, LabVIEW, Karel,Assembly, VBA, ROS, Bash/Shell, AxureRP, XML, HTML,JS,CSS.*
H/W: *OdroidC2, STM32F3, TM4C123, PIC16F684, Roborio, Beckhoff/Twincat(PLC), QNX(RTOS),Arduino,LR Mate 200iC(FANUC).*
Others: *BitBake,Yocto, Visual studio, Audacity, Photoshop, Asana.*

PROFESSIONAL EXPERIENCES

Eng. Consultant - Part time/Online — *July 2018~Now*
Upwork & Utest (Short term Eng. contracts), International
- Offer engineering services in projects such as: Robotic Control System Design & Software development (*C/C++/Matlab*); Mechanical design of movie props (*Solidworks*), Software Translation (*C++/Python/Matlab*)
- Offer consulting expertise in Multiple S/W & H/W functional testing projects for products, applications & websites from Amazon, Google, Slack, Applause & others. Report results of debug logs & visual feedback.
- Sales & Marketing: Making bids, setting terms & prices, developing and implementing online marketing strategies.

Software Developer - Aircraft Autopilot Control System Software Specialist — *Jan. 2019~ Aug.2019*
CAE & Experis Veritaq(Airplanes Simulation & control), Montreal
- Develop, Design, Debug & Test embedded RTOS Aircraft Autopilot software on industrial aircraft simulator.
- Solve Software & Hardware Defects/Issues. Code optimisation & refactoring. Test Piloting for debugging purposes.

3D Mechanical Design Engineer — *May 2016~ Oct.2017*
Gebo Cermex (Industrial machinery), Laval
- Design conveyors, palletizing and packaging machines and carry out mechanical analysis.
- Inspect the installation and assembly of the product on site or in the workshop.
- Perform structural calculation, pneumatic design and electrical integration. Assistant of the robotics department.

Eng. Consultant – Site Engineer/Technical Doc. writer — *Nov.2015~ March 2016*
Show Canada China Ltd (Grand scale shows and attraction parks), Beijing
Disneyland Shanghai Project
- Assist project managers and write, edit and update technical documents.
- Design circuit and PLC software (*Beckhoff/Twincat*) and execute mechanical studies for attraction parks floats & structures

Robotics Volunteer — *May.2015~ Now*
Robotics Coordinator — *Oct.2014~ May.2015*
Fusion Jeunesse & Lucien-Pagé School (Educative robotics), Montreal
- Design a mobile robot from ''Top to bottom'' and manage a team of students, technicians and engineers.
- Create mechanical/ electrical design, perform manufacturing/assembly and develop robot software (*LabVIEW/Java*). Plan budget and milestone.

ADDITIONAL EXPERIENCES

Laboratory Teaching Assistant (MEC8371: DYNAMICAL MODELING) *Aug.2018~Dec.2018*
École Polytechnique de l'UDM(School), Montreal

Internship/Project Engineer *Aug.2013~Dec.2013*
Nova Bus Division of Volvo Group Canada Inc. (Autobus), St-Eustache

Election's Scrutineer /Secretary-Part time *2011~Now*
Directeur Général des élections (Government election), Montreal

Rental Car Owner-Part time *2017~Now*
Turo (Online Car Rental), Montréal

PROJECTS

OpenCV/SBC Based Embedded Facial Recognition Client-Server App. *August 2018~Dec. 2018*

- Develop embedded software on Odroid-c2 single chip board interfaced with webcam and linux computer via a TCP/IP connection for facial recognition purposes. (*SCB (OdroidC2), Scientific Linux 7.5, USB Logitech c270, C++, Yocto, Bitbake, OpenCV*)

Simulation and Control of MIMO Systems *August 2017~Dec. 2018*

- Model and control MIMO system of helicopters (*ex: Yamaha R-MAX*), multicopters, planes and also tanks in a water treatment facility.
- Mathematical modeling, Matlab/Simulink modeling- Modal control: tracking simulation via state feedback, output feedback, tracking simulation via state estimation, minimum phase analysis, Optimal & Robust control (*LQR & H∞*).

Automated & Multi-Adjustable Chair *August 2014~May 2015*

- Develop, design and launch an adjustable chair and its software to adequately position the children on whom clinicians take dimensional measures for the manufacture of shin splints. Apply concepts of CAD, FEA, Arduino S/W dev & testing & teamwork, industrial design & market analysis.

Simulation and Control of a Propeller Powered Robot Arm *January 2015~May 2015*

- Control a rotating arm actioned by propeller wings in stable and unstable quadrants via multiple controllers in real time: RST Compensator, PID, Pole placement via state feedback.
- Periodic processes, data acquisition, signal transfer and analysis, implement controllers via recursive function (*QNX, C++, NI_DAQ_PCI6025*); Analyse & implement controllers via Matlab/Simulink.

ARM MCU Based Embedded Sound Oriented Gyroscope Client-Server App. *Jan. 2015~May. 2015*

- Develop embedded software on *TM4C123GH6PM* microcontroller interfaced with sound sensing circuit, servo-motor & Matlab-based GUI on Windows for sound triangulation purposes. *MCU (TM4C123GH6PM), ADC, UART, PWM, CMSIS, C/Ass., uVision.*

Parallel Cable Robot *June 2014~August 2014*

- Design, develop, manufacture and test of a servo system capable of moving a platform on the 2D plane, with the help of ropes. Applies concepts of system control, manufacturing, CAD and mechatronics.

Other Self-Learning & Academic Projets *August 2011~Now*

- Control and simulation of a LR Mate 200iC(*FANUC*) robot & implementation of vision algorithm on a Delta robot: *Karel, HandlingPro, TeachPendant, Matlab/Simulink*.
- Control, simulation et design of motor control circuits: *MCU PIC (PIC16F684), MPLAB, C/Ass., Fritzing, Matlab/Sim.*
- Structural analysis of a fuselage (private jet) and a clamping syst. (injection molding machine): *Ansys, Nastran, Excel*
- Mario Shokoban : *C, SDL, FMOD.*
- Stair-Climbing Mover Robot: *Solidworks, Python, ROS, STM32, C (In Progress)*

EXTRACURRICULAR ACTIVITIES & AWARDS

Toastmaster's International HEC *Mars.2019~Now*
PolySTAR: Robotics Committee of Polytechnic (VP, Co-Founder) *Jan.2018~Now*
Polyrad: Student's Broadcasting Committee of Polytechnic (VP) *Aug.2011~May 2015*
Robotics Competition - First Robotics Québec 2016 (Winning Team)
Polytechnic Mobile Robotics Competition 2013 (1st place design & 2nd place performance)