Antoine Noreau

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EDUCATION

BACHELOR OF BIOMEDICAL ENGINEERING (B.ENG) | ECOLE POLYTECHNIQUE DE MONTREAL **2015-2019**

- 4th year student, GPA 3.39/4.0 – 108 credits
- Entry award of excellence for academic record

STUDENT EXCHANGE – BIOMEDICAL ENGINEERING | UNIVERSITI TEKNOLOGI MALAYSIA **2017**

- 7 months abroad – UTM Johor Bahru, Malaysia
- GPA 3.93/4.0 – Dean's List

TECHNICAL EXPERIENCE

SYSTEM DESIGN INTERNSHIP, ZIMMER BIOMET INC. **2019**

- Development of *Patient-Specific* medical devices in othopaedics
    - Agile development of the *Signature One* Total Shoulder Replacement system
    - Surgery planning and surgical guide creation softwares
    - Risk management and system validation following FDA 21 CFR regulations
    - Certification of class II medical device and FDA 510(k) submission

EMBEDDED SOFTWARE DEVELOPMENT INTERNSHIP, RHEOLUTION INC. **2019**

- Embedded-C programming for a mechanical vibrations measurement device
    - STM32 microcontrollers – ARM Cortex-M7
    - *Internet of Things* embedded systems (Ethernet, Wifi, MQTT)
    - Design of analogic and digital circuit printed boards

BIOMEDICAL ENGINEERING FINAL YEAR PROJECT **2018-2019**

- Conception of an implantable MRI antenna for awake mice neuroimaging
    - Main goal : imaging of microinfarcts related to early-stage cognition losses
    - From preliminary design to extensive long-term testing on mice
    - Printed circuit boards for very-high frquencies (299 MHz)
    - Collaborating with the Montreal Heart Institute (7T MRI)

BIOMEDICAL ENGINEERING INDIVIDUAL PROJECT **2018**

- Design of a solar autoclave for hospitals in developing countries
    - 3rd place jury prize : Low-cost and highly-efficient autonomous system
    - Real-time temperature and sterilizing cycle monitoring on PSoC embedded system
    - Sun radiation concentration using a Fresnel lens

INTERNATIONAL HEALTH DEVELOPMENT INTERNSHIP, PROJET PC2 (HAITI) **2018**

- Equipment management training for local Haitian biomedical technicians
    - Designed a homemade equipment maganement software in Python
    - Training technicians on repairs and diagnostics for medical equipement
    - Collaborating with two NGOs (US-based and UK-based) on health management strategies

POLYCORTEX **2017-2018**

- Neurotech Student Club, focused on EEG biosignals capture & interpretation
    - Team won 1st place in both 2017, 2018 & 2019 NeuroTechX Interuniversity Competition
    - Electrical Engineering Team member
        - Developed a high-precision acquisition PCB for brain EEG biosignals
        - PCB design & microsoldering
        - Graphic User Interfaces in Python

CAMPUS INVOLVEMENT

BIOMEDICAL ENGINEERING STUDENT COMITEE

- President 2018-2019
    - Organized numerous networking events in Biomedical engineering
    - Leader of our 10-member executive committee
    - Biomedical Eng. Students representative to Polytechnique's Administration and Students Assoc.
- Vice-President (Academic Affairs) 2017-2018
    - Academic representative to Polytechnique's Students Association

MASTERED SOFTWARES

- **MATLAB**
    - Numerical Analysis & Signal Processing tools
- **Embedded C and microcontroller programming**
    - PSoC 5LP (ARM Cortex-M3) and STM32 (ARM Cortex-M7)
- **Python / SQL**
    - Backend and GUI development
    - Live data-plotting and visualization
    - Database operations and maintenance
- **C++**
    - Procedural operations, data storage and processing
- **Java**
    - Server/client and TCP/IP networks
- **Diptrace / KiCAD**
    - Electronic Circuit Design & PCB Layout
- **CATIA V5**
    - Modelling and 3D printing of various parts, for classes and side projects.

MASTERED LANGUAGES

- **FRENCH –** MOTHER TONGUE
- **ENGLISH** – BILINGUAL FLUENCY (TOEFL iBT 97/120)
- **SPANISH** – B1

OTHER WORK EXPERIENCE

MOUNTAIN EQUIPMENT CO-OP **2016**

- **Sales Assistant, Longueuil MEC Store**

PARKS CANADA **2014-2015**