IMRAN JAMEEL

www.imranjameel.com | imran.jameel@mail.mcgill.ca

EDUCATION

McGill University, Montreal, Canada

B.Eng. Mechanical Engineering *(Design)*, Minor in Technological Entrepreneurship   **Sept 2013 – Present**

- *Relevant Coursework*: Engineering Design (Conceptual, Graphical/CAD, Machine Elements), Materials Engineering, Principles of Manufacturing, Mechanics of Materials, Engineering Statics, Engineering Dynamics, Thermodynamics, Statistics and Measurement, Computers in Engineering (C Programming/ MATLAB), Engineering Economics/ Finance, Marketing Management, Technology Business Plan Design.

SKILLS

Computer: *CAD* (SolidWorks), *CAM* (MasterCAM), *Programming* (C, MATLAB, Arduino, Python, HTML, CSS, JavaScript, Node.js, LaTeX, LabVIEW, Git Workflow), *Software* (MS Office Suite)

Fabrication: *Machining* (CNC Mill, Lathe, Band Saw), *Rapid Prototyping* (3D Printing, Breadboarding, SMD Soldering)

EXPERIENCE

Aero Drones Design Team, McGill University – Montreal, Canada

Mechanical Engineering Team Lead   **Sept 2015 – Present**

• Lead all mechanical design, manufacturing and testing for the team of 20 students building a hexacopter according to the 'Unmanned Aircraft Systems' competition guidelines.

• Delegate work to and solve problems with 10 members of the Structures and Propulsion sub team.

• Design the drone assembly and payload mechanism with SolidWorks for FEA, dynamic modeling, 3D printing, machine drawings and simulations.

Rhodium - Product Design & Engineering Consultancy – Montreal, Canada

Product Design Engineer   **Sept 2015 – Present**

• Participate throughout the product lifecycle from ideation through engineering design, analysis, prototyping, documentation, up to manufacturing with a human-centered design thinking approach.

• Facilitate interactions between clients, hardware partners, and an interdisciplinary team of engineers, designers, researchers, and strategists to streamline product development and meet client deadlines.

reelyActive – Montreal, Canada

Systems Integration Engineering Intern   **May 2015 – Aug 2015**

• Awarded *NSERC Industrial Undergraduate Student Research Award (IUSRA)* towards research & development.

• Engineered a software library in Node.js to decode BLE advertising packets and developed its web-app with AngularJS.

• Project code was reviewed, pushed, and is now marketed globally by the company.

• Submitted a scientific paper on research conducted to the *2nd IEEE World Forum on Internet of Things (WF-IoT)* and published in conference proceedings.

MACES Computer Lab, McGill University – Montreal, Canada

IT Consultant   **Sept 2014 – April 2015**

• Provided technical support, troubleshooting assistance, and was involved as a cashier attendant.

• Simplified complex technical processes in simple layman terms through consultation with students and faculty.

3M – Colombo, Sri Lanka

Project Management Intern   **July 2014 – Aug 2014**

• Examined current traffic safety practices and remodeled a system for Class B roads that decreased costs by 10%.

• Documented a feasibility report on 3M Polycarbonate RPM's for implementation on Class B roads.

• Pitched proposal to 4 representatives from the Road Development Authority.

PROJECTS

<u>Structural Design</u>

Wooden Protective Structure for a Load Drop   **MECH 201, McGill University - 2013**

- Designed and constructed a structure that will protect a light bulb from being broken by multiple maple syrup cans dropped from a height of 3m, subject to several constraints.

<u>Mechanism Design</u>

Folding Garage Mechanism for an Outdoor Garage   **MECH 290, McGill University - 2015**

- Designed a mechanism for lifting and lowering the awning bar of a folding garage.
- Produced 3D CAD models & manufacturing BOM using SolidWorks.

Robot Putter for Golf Balls   **MECH 292, McGill University - 2015**

- Assisted with the design and construction of a Bluetooth RC robotic car made to pickup a golf ball, carry it up a 30-degree incline and drop it into a hole.

<u>Mechatronics Design</u>

Smart Insole for Gait & Applied Behavior Analysis   **Penn Apps, University of Pennsylvania- 2015**

- Built a wearable GRF sensor system using force sensors and carried out kinetic analysis to characterize human locomotion.
- Developed a web based application to find correlations between human gait activity and several quantifiable lifestyle parameters such as weather patterns, number of events, music and geolocation.

EEG Headband to Reduce Anxiety/Stress & Induce Calmness   **Angel Hack, Montreal - 2015**

- Devised a brain soothing headband with electrodes and an OpenBCI using basic signal processing and the science behind SSVEP to measure and stimulate brain activity.
- Developed a web based application which makes you aware of brain activity in real time and offers audio and visual stimuli based on your brain activity to induce calmness.

Biometric Socks for Telemedicine   **WearHacks, Toronto - 2015**

- Fabricated a smart-sock known as Sensock using IR and temperature sensors to measure vitals such as heart rate and body temperature, as well as a force sensor for haptic feedback to page a doctor via a text message.

Smart Lighting for the Differently Abled   **YHack, Yale University - 2014**

- Built a smart home lighting solution with the Intel Galileo microprocessor and standing LED lamps allowing for gesture based light control by arm movements via a Myo Armband integration.

EMG Armband as a Musical Instrument   **WearHacks, Montreal - 2014**

- Engineered a gesture based virtual musical instrument via the Myo armband linked to a MIDI player to play musical instruments such as a drum-set without the need for purchasing one.
- Presented project at Google (Montreal), WeAreWearables (Toronto), and Tech@D (Montreal).

HONORS & ACTIVITIES

Engineering Ambassador, McGill Dobson Centre for Entrepreneurship	**2015/2016**
NSERC Industrial Undergraduate Student Research Award	**2015**
1st Place, Best Use of Nest Labs API, Hack The Planet, Silicon Valley	**2015**
1st Place, Best BCI Project, Angel Hack	**2015**
Campus Ambassador, Canadian Undergraduate Technology Conference (CUTC)	**2015**
1st Place, Most Innovative IoT Project by Intel, YHack, Yale University	**2014**
1st Place, Best Thalmic Myo Project, WearHacks, Montreal	**2014**
Semi Finalist, McGill Dobson Cup Start-up Competition	**2013-2014**
Technology Panel, Harvard Program for Asian & International Relations (HPAIR)	**2014**

PUBLICATIONS

- M. Jameel and J. Dungen, "Low-Power Wireless Advertising Software Library for Distributed M2M and Contextual IoT", at the *2nd IEEE World Forum on Internet of Things (WF-IoT)*, Milan, Italy, 2015.