**ARUSHRI SWARUP**

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**PERSONAL STATEMENT**

A driven, hard-working and optimistic biomedical engineer in her final year at the University of Toronto. Has developed prototyping, engineering design, teamwork and project management skills through her internship and engineering course work. Eager to apply and develop her skills in exciting, new biomedical engineering challenges.

**WORK EXPERIENCE**

**Engineering Associate – Baylis Medical Company** May, 2014 – August, 2015

* Designed, tested, documented and implemented verification and validation testing of medical devices
* Managed RoHS compliance project – communicated with suppliers and quality department, took meeting minutes, managed documentation and project plan on MS Project
* Used Solidworks to update device drawings, assemblies, and prototype designs
* Prototyped and tested production jigs using feedback from senior engineers and production operators
* Addressed non-conformances in production by performing technical investigations, developing and implementing a solution in production
* Developed a Laser Welding Training Document, Manufacturing Protocols, Component Descriptions, Test Protocols, Engineering Change Orders

**EDUCATION**

University of Toronto  September, 2011 – April, 2016

Bachelor of Applied Science and Engineering, **Biomedical Systems Engineering** 3rd and 4th Year GPA 3.7

**Relevant Courses:** Biomedical Engineering Design, Undergraduate Thesis, Biomaterial and Medical Device Development, Human Physiology, Cells and Tissue Engineering

**ENGINEERING PROJECTS**

**Design and Fabrication of an Endoscopic Ear Surgery Tool** September, 2015 – Present

* Collaboratively designed a modified surgical tool for Endoscopic Ear Surgery with four team members and an ENT Surgeon at SickKids Hospital
* Used Solidworks, 3D printing and Mill machining to design a functional prototype and tested inside a 3D printed ear canal and a cadaver ear canal
* Delivered a final presentation and report

**Thesis: Computer Simulation of Enhanced Transcutaneous Nerve Stimulation**  September, 2015 – Present

* Developed a model of a simplified human leg with nerve simulating electrodes on Comsol Multiphysics to analyze nerve excitability using Matlab
* Thesis report to be submitted to the Division of Engineering Science in April, 2016

**Fabrication of Pneumatic Engine -** Basic Machining Course at George Brown College February, 2015

* Used Lathe, Mill machine and Drill press to machine a pneumatic engine from engineering drawings

**Design and Experimental Verification of a Damped Crutch**    January – April, 2014

* Collaboratively designed and prototyped a dampened crutch with a team and measured force imparted by the crutch using a force plate and Matlab
* Submitted a proposal and delivered an oral presentation

**Development of an Antimicrobial Resistant Microorganism Monitoring System**  May – August, 2013

* Conducted diffraction-based immunoassays and tested them on a system of optical instruments along with a fellow student
* Utilized Matlab to analyze data collected, wrote an SOP for diffraction-patterning slides

**Engineering Design Proof of Concept Dowel-Packing Machine**

University of Toronto Division of Engineering Science January – April, 2012

* Designed and prototyped a robotic dowel-packing machine in a machine shop with two team-members

**Aeroponic Proof of Concept Project** May 2012 – November, 2014

* Collaboratively built an Aeroponic Garden System consisting of individual garden units with a spraying system and drainage system, with a team

**SKILLS**

* Matlab, Solidworks, Microsoft Office, COMSOL Multiphysics, ImageJ
* Laser Welder, Force Gauge, Pull Test Stand, 3D Printer and Basic Machining Skills
* Molecular biology wet lab training and experience through coursework
* Certified in Laser Safety Training by U of T, May, 2013

**AWARDS**

* NSERC IUSRA Award May-August, 2014 and May-August, 2015 during PEY at Baylis Medical Company
* Recipient of 2011 University of Toronto President’s Scholarship

**CLINICAL VOLUNTEER EXPERIENCE**

Grand River Hospital/Regional Cancer Centre Volunteer: Summer Student Program July – August, 2011

* Interacted with patients undergoing chemotherapy

**LEADERSHIP/VOLUNTEER EXPERIENCE**

Engineering Science Ambassador  September – December, 2013

* Conversed with prospective engineering students at the Ontario University Fair and Fall Campus Day, representing Engineering Science at the University of Toronto

**HOBBIES**

Bollywood Dance Instructor at Hart House, U of T February, 2016 - Present

REFERENCES: Available on Request