Anoushka Pathak

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2A Candidate for Honours Mechatronics Engineering - University of Waterloo (2023)

RELEVANT PROJECTS

R&D Member—Biomechatronics Club

SEPT 2019 - CURRENT

- Developed a **pressure sensor mat** to measure concentrated areas of pressure over long periods of time to identify potential discomfort for bed-ridden patients/wheelchair users
    - Used copper tape, cloth, velostat (pressure sensing material) to create an array of sensors into a mat
    - Used **multiplexer** to read multiple sensors and programmed an **Arduino** to read sensors and display the information

3D printed phone stand — 1A Mechatronics Project

NOV 2018

- Designed a phone stand in **SolidWorks** with volume and size constraints
- Worked with **3d printer** software to prepare the piece for printing

Jenga Builder + Pneumatic Arm — 1A Mechatronics Projects

SEPT - DEC 2018

- Built a robot that sets a Jenga tower using Lego and Tetrix kits. Programmed in RobotC, working with sensors and timers
- Designed a robotic arm that placed small items on hooks with accuracy and precision using Tetrix kits and pneumatics

Structure and design — FIRST robotics 2018

JAN - APR 2018

- Built and assembled components of the robot frame in a machine shop
- Developed ideas with a team on how the robot would lift itself and a large weight approx. 7ft upward

PREVIOUS COOPS

Web app developer—Computer Science Computing Facility, UW

SEPT - DEC 2019

- Built DoorSign, app allowing faculty staff to see each others availability and set their status + return times and custom messages. Used a **postgres database** + **React-Flask** for front-end
- Improved SAT (School Admin Tool), React-Flask app for managing data for university classes, research groups and resources

Programmer and Computer Support—Environment Canada

JAN - APR 2019

- Developed a variety of web apps to aid researchers in data input tasks - used **SQL, PHP and Python**
- Debugged and fixed file copying/transferring **bash scripts** in preparation for a department-wide update of Windows 10

LANGUAGES

- C++
- Python
- Javascript
- SQL
- VHDL
- PHP
- HTML+CSS

TOOLS

- AutoCAD
- Solidworks
- Git
- Xcode
- Arduino

RELEVANT COURSES

- Intro to Digital Logic and Microprocessors
- Engineering Graphics and Design (AutoCAD, SolidWorks, orthographic projection, GD&T)
- Data Structures and Algorithms (C++)
- Digital Computation (C++, RobotC)