Samarth Kumar

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EDUCATION

McMaster University - B.Eng.BME (Co-op) **Sept 2019 - Present** | Hamilton, ON
Level II - Software and Biomedical Engineering **cGPA: 3.97 / 4.0**
• Received President's Award for achieving **95%+** average in high school

WORK EXPERIENCE

Undergraduate Research Assistant **Jun 2020 - Nov 2020**
Faculty of Engineering - McMaster University
• Researched literature and designed software to co-author a paper on a novel COVID-19 monitoring device
• Developed **MATLAB** algorithms to analyze sensor data from the body to extract parameters such as cuffless blood pressure, saturated blood oxygen, coughing data, and lung function

VOLUNTEER EXPERIENCE

Burlington Public Library **Feb 2015 - Dec 2017**
• Mentored over 100 kids aged 6-12 in the STEAM Program, aiding them in weekly science-related activities
• Inspired passion for technology in youth by incorporating and attending events such as coding through art and 3-D printing tutorials as a member of the Teen Technology Board

EXTRACURRICULAR ACTIVITIES

Science Olympics **Sept 2016 - Jun 2018**
• Developed and inspired creativity and problem-solving by designing an event in which 200 middle-school students competed, traversing a laser maze using sets of mirrors

VEX Robotics **Oct 2017 - Feb 2018**
• Improved proficiency in **C/C++**, and **hardware** ability through designing a robot and competing in Toronto

PROJECTS

Custom Hip Replacement Prototype **Nov - Dec 2019**
• Analyzed patient x-rays to create a prototype for a total hip replacement, modeled using **Autodesk Inventor**, and demonstrated in a poster showcase
• Performed mathematical stress-strain analysis using **Python**

Blackjack **Oct 2018 - Feb 2019**
• Created a functional object-oriented blackjack game using **Java**, with a GUI and realistic dealer AI

Smart Streetlight Prototype **Jan - Jun 2016**
• Developed an energy efficient streetlight prototype in a team using **Arduino** (**C/C++**) that provided motion sensing capability and real-time air quality streaming to an **Excel** spreadsheet
• Presented to representatives of Toronto City Hall, who expressed financial interest in the project

AWARDS

• Deans' Honour List **Apr 2020**
• President's Award **Sept 2019**
• Computer Science Award (High School) **Jun 2019**
• Canadian Computing Competition (**Top 25%**) **Feb 2019**
  • Placed **92nd** percentile
• UWaterloo Senior Math Contest (**Top 25%**) **Nov 2017**
  • Placed **87th** percentile

SKILLS

Proficient: **Java**, **Python**, **MATLAB**, **Autodesk Inventor**, **MS Office**

Familiar: **C++**, **Bash**, **Assembly**, **HTML/CSS**