

# Abhayraj Jain

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Portfolio available at [www.abhayraj.net](http://www.abhayraj.net)

## SKILLS

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- » Engineering Design *Design Thinking, Problem Solving, Computation, Error Analysis, Troubleshooting*
- » CAD/CAM Design *Autodesk Inventor, Solidworks, cncKad, EAGLE*
- » Programming Languages *C/C++, Java, Python, MATLAB*
- » Other *Arduino, Linux, CNC, Version Control (git)*

## PROJECT WORK

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- » Winner at [Hack the North 2017](#)  
*Part of a team that designed, built, and coded a self-charging system to track bicycles and view their location live. Winning team at Canada's largest hackathon, with 1000 attendees and 238 submissions.*
- » Designed a cross-platform event management system implemented at DeltaHacks IV  
*The solution increased efficiency by automating check-in, meals, and sharing contact information for 500 people. Secure, advanced functions, and full ability to scale up. Written in NodeJS.*
- » Winner of the McMaster University Sumobot Advanced Competition 2017  
*Built an autonomous robot which then competed in and won a competition against experienced teams. Programmed the robot in C using the Arduino IDE.*
- » Built a custom 3D Printer/CNC Machine 2017  
*Adapted an advanced design that incorporates all-metal construction. Implemented advanced features such as a webserver and a phone app. Easily convertible to a laser engraver.*

## EDUCATION

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- » Bachelor of **Mechatronics Engineering**, Year 2 (Co-op) Expected Completion Apr 2020
- » International Baccalaureate (IBDP) from [The Doon School](#), India Graduated May 2016

## WORK EXPERIENCE

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- » Teaching Assistant at McMaster University September 2017 - Present  
*Course : Engineering Design and Graphics*  
*Instructed 1st year students in CAD design on Autodesk Inventor and 3D printing using Repetier.*
- » Product Design at *Instruments & Chemicals Pvt. Ltd., India* June 2016 - Aug 2016  
*Worked independently to improve reliability by designing digital replacements for aging analog devices.*  
*Accelerated R&D using Java and C/C++ to program a microcontroller and interface with other devices.*

## VOLUNTEER EXPERIENCE

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- » Lead Mentor at [FIRST Robotics Competition](#) Team 6878 September 2017 - Present  
*Coached a group of 14 to 18 year old high school students with no robotics experience. Taught them how to design, program, and build a robot to fulfil the challenges set by the FIRST Organization.*
- » Head of Marketing at [DeltaHacks IV](#) May 2017 - Present  
*Led a team comprising graphic designers, website developers, and social media managers.*  
*Attracted 1460 applicants, of which 17% were female, at McMaster University's annual hackathon.*