

Tilak Gupta

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<https://tilakg7.github.io/website>

Education	<p>Mechatronics Engineering, University of Waterloo (87% Average) Sep 2015 - Present</p> <ul style="list-style-type: none">Relevant Courses: Microprocessors and Digital Logic (FPGA boards, PLC programming, Assembly Language), Mechanics of Deformable Solids <p>Embedded Systems Course, University of Texas, Austin, edX</p>
Skills	<p>Software Embedded C/C++ C# Python Java Particle IDE Visual Studio GitHub Linux Bash .NET Framework AngularJS JQuery Bootstrap</p> <p>Hardware Particle Core Arduino IoT Microcontrollers Altium (Learning) Circuit Design Soldering</p> <p>Design AutoCAD SolidWorks Revit Autodesk Inventor Design Briefs and Technical Reports</p>
Projects	<p>LED Ambient Lighting</p> <ul style="list-style-type: none">Used the Particle Core (similar to Arduino) to program LEDs to respond to weather and musicWrote firmware to transfer LED color commands using custom serial communication protocol <p>Electric Bike (Ongoing, Construction Pending)</p> <ul style="list-style-type: none">Designed a full size carbon fiber bike frame and electrical propulsion system<ul style="list-style-type: none">Designed a custom mono-shock rear suspension for off-road capability <p>Quadcopter</p> <ul style="list-style-type: none">Built a quadcopter utilizing online resources and sourced parts (Frame, Motors, ESCs)Debugged hardware and firmware issues which arose during the build
Work Experience	<p>Software Engineer, BDO Solutions Ltd Sep 2016 – Dec 2016</p> <ul style="list-style-type: none">Increased web security by implementing measures to enforce HTTPS and prevent common attacks such as Cross Site ScriptingPerformed propensity modelling and regression analysis to predict insurance claimsDecreased web application load times by 50% by redesigning application in different software <p>Software Engineer, Broad-Connect Telecom Inc. Jan 2016 – April 2016</p> <ul style="list-style-type: none">Engineered software for new web portal elements in a start-up like environmentIncreased security by developing two-factor authentication systemDeveloped system allowing portal administrators to limit user login during prohibited hoursDesigned and wrote unit tests for applications to ensure maintainability and resiliency of code
Extra-curricular Experience	<p>Formula Electric, Design Team, University of Waterloo Sep 2016 - Present</p> <ul style="list-style-type: none">Designing the electrical harness schematic for main components of the electric car <p>VEX Robotics, Rick Hansen Secondary School Sep 2012 - Aug 2013</p> <ul style="list-style-type: none">Built and programmed a semi-autonomous robotRegional winner out of 36 teams
Awards	<p>Waterloo President's Scholarship \$2,000 Vex Robotics: Excellence in Design Rick Hansen Regional Winner Rick Hansen Science Department Award</p>