

# DEVIKA VISHWANATH

Engineering Physics Year 3 at The University of British Columbia (UBC)

Available for Co-op: May – August and/or September – December 2019

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## EXPERIENCE

*Chem-E-Car Design Team UBC, Vancouver BC* | [devikavishwanath.github.io/ChemECar.html](http://devikavishwanath.github.io/ChemECar.html)

**Electrical Team Lead**, Sep 2017 – Nov 2018

- Designed and constructed sustainable small-scale car powered by a Zinc-Air battery
- Managed electrical sub-team of 4 students and designed sensor/motor control circuitry
- Won 1<sup>st</sup> place out of 7 teams at the 2018 Pacific Northwest Regional Competition
- Won 1<sup>st</sup> place for poster out of 40 international teams at 2018 AIChE National Competition

*AgroBot Environmental Robot Design Team UBC, Vancouver BC* | [www.ubcenvision.com/agrobot](http://www.ubcenvision.com/agrobot)

**Automation Team Lead and Co-founder (Current)**, Nov 2018 – Present

- Lead of 3 Automation sub-teams each consisting of 4 students
- Designing a rechargeable robotic car capable of manoeuvring crops and exterminating weeds
- Implementing image-recognition and machine-learning to identify 3 types of weeds
- Incorporating GPS and wireless communication systems for navigation and data transfer

*OceanWorks International, Vancouver BC* | [www.oceanworks.com](http://www.oceanworks.com)

**Junior Electrical Engineer**, Jan – Feb 2018 (Company Closed)

- Redesigned a network of over 8 internal sensors on deep-sea diving hard suit
- Generated circuit schematics and PCB layouts of sensor networks using Altium Designer
- Debugged and tested previous deep diving hard-suit simulators for client approval

*Believe in Your Child Foundation, Burnaby BC* | [www.believeinyourchild.org/programs](http://www.believeinyourchild.org/programs)

**Coding & Robotics Summer Camp Instructor**, Jun – Aug 2017

- Instructed multiple 5-day camp sessions for over 40 students
- Designed over 10 lesson plans incorporating beginner programming and robotics

## PROJECTS

*Free-Space Laser Communication System* | [devikavishwanath.github.io/FSLC-p1.html](http://devikavishwanath.github.io/FSLC-p1.html)

**Electrical Communication System Design**, Dec 2013 – May 2014

- Designed and implemented AM and PWM modulators at home using available components
- Minimized distortion in free-space communication using circuit design and analysis
- Won gold medal at 2014 Regional Science Fair out of 140 participants
- Won bronze medal at the 2014 Canada-Wide National Science Fair held in Windsor, Ontario

*Autonomous Path Following and Ewok-Rescuing Robot* | [rt14-lysander0th.github.io/](http://rt14-lysander0th.github.io/)

**Robotic Design and Automation**, June – August 2018

- Incorporated LIDAR technology to locate objects within 1 cm of accuracy for collection
- Constructed all drive-train/body parts using CAD, laser-cutter, waterjet-cutter and 3D-printer
- Designed libraries for autonomous functionality on custom microcontroller, TINAH

*Yelp Database Clustering* | [devikavishwanath.github.io/YelpDatabase.html](http://devikavishwanath.github.io/YelpDatabase.html)

**Java Programming**, November 2017

- Implemented K-means clustering to organize restaurants based on location
- Decreased runtimes by 50% by introducing and implementing K-means++ clustering

## TECHNICAL SKILLS

**Electrical:** Altium, Soldering, Circuit Analysis, PCB Design, Instrumentation/Measurement

**Languages:** Java, C++, Arduino, HTML&CSS, MATLAB, VHDL, Python (Raspberry Pi)

**Software:** Quartus, MultiSim, Eclipse, Sublime, Visual Studio, Solidworks, Omax, Correll Draw, Cura