DEVIKA VISHWANATH

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Engineering Physics Year 3 at The University of British Columbia (UBC)
Available for Co-op: May – August and/or September – December 2019

EXPERIENCE

AgroBot Environmental Robot Design Team UBC, Vancouver BC
Software/Automation Team Lead and Co-founder (Current) Nov 2018 – Present

- Lead of 3 Automation sub-teams each consisting of 4 students
- Designing a robotic car capable of manoeuvring crops and exterminating 3 species of weeds
- Implementing image-recognition and incorporating TensorFlow for deep learning
- Incorporating a wireless communication system for data transfer and GPS for navigation

Chem-E-Car Design Team UBC, Vancouver BC
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 control circuitry and Arduino code
- Won 1st place out of 7 teams at the 2018 Pacific Northwest Regional Competition
- Won 1st place for poster out of 40 international teams at 2018 AICHE National Competition

OceanWorks International, Vancouver BC
Junior Electrical Engineer Jan – Feb 2018 (Company Closed)

- Redesigned a network of over 8 internal sensors on US navy 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
Coding & Robotics Summer Camp Instructor Jun – Aug 2017

- Designed over 10 lesson plans and instructed multiple 5-day camps for over 40 students

PROJECTS

Yelp Restaurant/Review/User Database Programming and Clustering
Java Programming Sep – Nov 2017

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

Autonomous Path Following and Ewok-Rescuing Robot
Automation and Robotic Design Jun – Aug 2018

- Designed finite-state machine libraries using C++ on microcontroller for autonomous capability
- Incorporated LIDAR technology to locate objects within 1 cm of accuracy for collection

Free-Space Laser Communication System
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

Image Manipulation and Processing
C++ Programming Jan 2019

- Compressed and applied filters on images through pixel manipulation
- Implemented linked lists and applied memory management to ensure efficiency

ShareTango Android App Development
Android Studio July – Sep 2017

- Implemented the UI (music player) for Snapchat inspired music sharing app

Graphical Network and Algorithms
Java Programming November 2017

- Organized Enron email data set into directed graph with vertices and edges
- Designed depth-first search and breadth-first search algorithms to traverse graphical data

TECHNICAL SKILLS

Electrical: Altium, Soldering, Circuit Analysis, PCB Design, FPGA (DE0-CV Board), Instrumentation
Languages: Java, C++, Arduino, HTML5&CSS3, MATLAB, VHDL
Software: Quartus, MultiSim, Eclipse, Sublime, Visual Studio, Solidworks, Omax, Correll Draw, Cura