NICOLE ROSARIO

Mechatronics Engineering Co-op, University of Waterloo

(647) 622-7473
n2rosari@edu.uwaterloo.ca
www.linkedin.com/in/Nicole-Rosario
https://github.com/Nicole-K-R

SUMMARY OF QUALIFICATIONS

- Software Development Skills: Algorithms, Data Structures, Git, PLC
- Programming Languages: C, C++, RobotC, Java, Python, HTML (CSS and Bootstrap), Javascript
- Mechanical Skills: CAD (SolidWorks, AutoCAD), GD&T, technical drawings, machining, soldering, MATLAB
- Passion for learning new skills and developing solutions
- Strengths: self-learning, time management, organizational, communication, and problem solving skills

PROGRAMMING EXPERIENCE

Robotic Claw Machine (Mechatronics Engineering and Digital Computation) **Oct. 2016 - Dec. 2016**
- Designed and implemented software components for the robotic claw machine using flowcharts and coding in RobotC
- Applied engineering design process by identifying the constraints and criteria, as well as designing and testing the systems
- Utilized AutoCAD, laser cutter, and machine tools to design and construct the mechanical components

IEEE Hardware Hackathon (Hackathon) **Feb. 2017**
- Tested and debugged code for Arduino (a C++ based language) to enhance the functionality of the security robot
- Integrated sensors and other electrical components using Arduino (RFID, transceivers and receivers, ultrasonic sensor)
- Applied engineering, problem solving, and time management skills to build the security robot during the 12 hour hackathon
- Utilized teamwork skills to debug code and problem solve solutions to integration problems

Drone (Personal Project) **Feb. 2017 - Present**
- Developed embedded software knowledge by researching how to build and program a wireless remote control for a drone
- Applied electrical engineering skills to solder electrical connections (motors, electronic speed controllers, power supply board)
- Sourced and assembled the mechanical components for the drone to enhance mechanical capabilities

ENGINEERING-RELATED EXPERIENCE

Waterloop - Canadian SpaceX Hyperloop Competition Team (Design Team) **Sept. 2016 - Present**
Electromagnetic Sub-team (Goose I and II pods)
- Designed and manufactured parts for the eddy current braking system and Halbach wheels using SolidWorks and machine shop tools
- Enhanced problem solving skills while manufacturing the test track and shell

3D Printed Phone Holder (Mechatronics Engineering) **Nov. 2016**
- Designed 3D phone stand using SolidWorks, adhering to project dimension requirements and 3D printing constraints

Newmarket High School Robotics Team (High School Robotics Team) **Sept. 2014 - Jun. 2016**
- Designed, built, and tested robots for the VEX Robotics Competitions, collaborating with teammates
- Coached multiple sub-teams and mentored junior students to solve hardware design problems

Model Rocket (Personal Project) **Jan. 2017 - Present**
- Designed and built the rocket nose cone, fins, and alignment jig using SolidWorks, AutoCAD, 3D printer, and a laser cutter

WORK EXPERIENCE

Baseball & Golf Camp Counsellor (Seneca Summer Camps, Toronto) **Jun. - Aug. 2016**
- Responsible for the safety, athletic skills development, and assistance in dispute resolution for around 35 campers per week

Hockey Referee Level 2 (Newmarket Minor Hockey Association (NMHA)) **Oct. 2012 - Apr. 2016**
- Enhanced decision making skills by managing on-ice game play, calling goals and penalties, and enforcing ‘safe and fair play’

EDUCATION

University of Waterloo, Mechatronics Engineering (Co-op) **Sept. 2016 - Present**
Candidate for Bachelor of Applied Science
- Received President’s Award of Distinction (university admission average above 95%)

ACTIVITIES & INTERESTS

- Interests: researching clean energy vehicles, robotics, rocket design and space exploration