IVAN MAK

(416) 917-6836 | ivanjbmak@gmail.com | linkedin.com/in/ivanjbmak | ivanjbmak.github.io

HIGHLIGHTS OF QUALIFICATIONS

- 3 years of software development experience using C++, C, Python, C#, and Visual Basic in a Linux based environment
- Hands-on experience with Robotics Operating System (ROS) and MATLAB/Simulink
- 4 years of strong CAD skills for modeling acquired from experience using Siemens NX, SolidWorks and Autodesk Inventor
- Expert knowledge of electronics and mechanical design from project experience
- 3 years of experience with writing software to control electrical/mechanical systems
- Working knowledge of GIT change management tool for projects
- 7 years of experience in providing excellent customer service in a team environment

PROFESSIONAL EXPERIENCE

Dynaplas Ltd. **Scarborough, ON**

Junior Manufacturing Engineering Coop **Sep. 2018 – Apr. 2019**

- Designed guarding layouts and fixtures using Autodesk Inventor to ensure safety and efficiency on the plant floor
- Automated quality inspection of injection molded automotive parts by programming a collaborative 6-axis arm
- Re-designed additive manufacturing facility using lean six sigma to improve production of prototype parts reducing lead times for tool fabrication by 50%
- Collaborated with automation suppliers to quote new projects and equipment for production and future business

Brockport Home Systems **Etobicoke, ON**

Junior Project Analyst **May. 2016 – Aug. 2016**

- Re-designed and fabricated pneumatic lifting table using Siemens NX and welding to reduce physical space required
- Implemented new assembly line design for floor panels using lean manufacturing to reduce production down time by 75%
- Tested small scale pneumatic and hydraulic actuators using switches and sensors to verify functionality for future projects

PROJECTS

Two Wheel Self-Balancing Robot with Object Recognition and Autonomous Navigation

- Programmed object detection using NVIDIA Jetson Nano and TensorFlow Python library
- Generated 3D point cloud maps using ROS Rviz with IntelSense Depth and Tracking Cameras for navigation
- Programmed autonomous navigation with SLAM and RPLiDAR A2 using ROS navigation stack
- Developed PID controller for DC motors using Python 3 with Raspberry Pi 4 to test self-balancing control system

Maze/Line Follower Turtlebot3 (Simultaneous Localization and Mapping)

- Deployed ROS Kinetic software with SLAM to robot resulting in autonomous navigation through maze course
- Programmed robot using Python and OpenCR with Raspberry Pi to successfully navigate the given line map
- Assembled Turtlebot3 using LiDAR and camera sensors as well as an SBC demonstrating high level electronics understanding

Programmable Arduino Based LED Glasses

- Developed code for LEDs using C programming language resulting in vibrant patterns for aesthetic illumination
- Designed 3D-printed frame and using Siemens NX for a portable and comfortable experience for user

EDUCATION

Ontario Tech University (University of Ontario Institute of Technology) **Oshawa, ON**

Bachelor of Engineering (Honours), Mechatronics Engineering **Apr. 2020**