



NAYEF AHMED

MECHATRONICS ENGINEERING

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EXPERIENCE

- **Microsoft Corporation** | Software Engineer Intern
C#, C++, C++/CX, XAML, Unity, HoloLens | Jan 2018 - Apr 2018
 - Worked on Mixed Reality Viewer team to create a default Windows and HoloLens app for viewing 3D content with over 3 million monthly users
 - Integrated 3D asset conversion and optimization pipeline to support all 3D file formats and ensured it adhered to the MVVM design pattern
 - Collaborated with UI/UX designers and data analysts to implement a content promotion system that promotes key app features to new users
- **Watonomous (Self-Driving Car)** | Sensor Fusion Engineer
OpenCV, ROS, Rviz, LiDAR, Radar | Sep 2017 - Dec 2017
 - Worked within Sensor Fusion subteam to transform a Chevrolet Bolt EV into a level 4 autonomous vehicle for the SAE AutoDrive Challenge
 - Implemented sensor fusion algorithms to combine raw camera and Lidar data to obtain better representation of car's surroundings
- **Unicell Body Company** | Full-Stack Developer
Java, MySQL, Laravel, Vue.js, React Native | May 2017 - Aug 2017
 - Expanded company's business-facing website using LAMP stack, Laravel, and Vue.js used by over 1000 employees
 - Automated core data processing using Selenium and Java, resulting in 60% increased efficiency in chassis inventory management
 - Iterated on internal quoting tools using Chart.js to improve ease of use and allow for better visualization of company performance

PROJECTS

- **Study Space** | PennApps (Google's Best Android Things Prize)
Android Things, Java, Firebase, NXP Microcontroller | Sep 2017
 - Created IoT device along with companion app to display the number of people in specific locations on campus
 - Determined the occupancy of areas using 'Android Nearby' to discover number of wireless devices within range
- **SmartGlove** | IEEE Hardware Hackathon (3rd Place)
Arduino, C, Gyro/Accelerometer | Feb 2017
 - Designed glove to wirelessly control IoT devices using simple gestures
 - Implemented gesture recognition by combining data from capacitive force sensors and 3-axis gyroscope/accelerometers
 - Controlled devices such as lights and speakers by sending commands through TCP local WiFi socket using two Arduino Nanos
- **Dog Wheelchair Lift** | Robotics Project
C++, RobotC, AutoCAD | Oct 2016 - Dec 2016
 - Constructed wheelchair lift to allow handicapped dogs to scale obstacles with heights up to 20cm
 - Implemented automatic deployment/stoppage of lift sequences by detecting obstacles using gyroscope and ultrasonic sensors

SKILLS

- **Languages**
 - C++
 - C#
 - Java
 - XAML
 - JavaScript
 - SQL
- **Stacks/Frameworks**
 - OpenCV
 - LAMP Stack
 - Laravel
 - .NET Core
 - Node.js
 - React Native
- **Tools**
 - Git
 - Arduino
 - ROS
 - Unity
 - Unix
 - VSTS

ACCOMPLISHMENTS

- **TDSB Top Scholar**
Bloor Collegiate Institute
 - Ranked top 5 (99.3% average) out of over 21,000 students in the Toronto District School Board
- **Other Scholarships/Awards**
 - President's Scholarship of Distinction
 - Chancellor's Scholarship
 - Richard Kiyonaga Memorial Award
 - AP Scholar with Distinction

EDUCATION

- **University of Waterloo**
2016 - 2021
BASc in Honours Mechatronics Engineering Co-op (GPA 3.7)
- **Relevant Courses**
 - Real Time Operating Systems
 - Microprocessors and Digital Logic
 - Data Structures and Algorithms

HOBBIES/INTERESTS

- - Varsity Ultimate
 - Road Biking
 - Hiking
 - Speedcubing (Rubik's Cube)
 - Snowboarding
 - Robotics