NAYEF AHMED

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EXPERIENCE

Microsoft Corporation | Software Engineer Intern
C#, Go, Redis, Azure | Redmond, WA | Aug 2018 - Present

- Currently working on the Azure DevOps team to add caching and improve ownership enforcement features within Visual Studio Team Services

Watonomous (Self-Driving Car) | Path Planning Engineer
C++, OpenCV, CMake | Waterloo, ON | Sep 2017 - Aug 2018

- Transformed a Chevrolet Bolt EV into a **level 4 autonomous vehicle** for the SAE AutoDrive Challenge
- Implemented path visualization algorithms **using ROS and Rviz** to display the path of the car generated using a trajectory rollout approach

Microsoft Corporation | Software Engineer Intern
C#, C++, XAML, HoloLens | Vancouver, BC | Jan - 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/optimization pipeline into app to support all 3D file formats while ensuring it adhered to the MVVM design pattern
- Collaborated with UI/UX designers and data analysts to implement a new content promotion system, **increasing user retention by over 35%**

Unicell Body Company | Full-Stack Developer
Java, MySQL, React Native | Toronto, ON | May - Aug 2017

- Expanded business-facing company website **utilized by over 1000 employees** using the LAMP stack, Laravel, and Vue.js
- Automated core data processing using Selenium, resulting in **60% increased efficiency** in chassis inventory management

PROJECTS

Flappy Goose | RTOS Game in an Embedded Environment
C, Keil RTX RTOS, LPC1768 Microcontroller| Jun - Jul 2018

- Recreated Flappy Bird game using Keil MCB1700 board in a real-time OS
- Used **task synchronization and interrupts** to update LCD graphics, player score, game physics, and handle peripheral I/O simultaneously

Study Space | PennApps XVI (Google Prize Winner)
Android Things, Java, Firebase | Sep 2017

- Created IoT device and companion app to display the number of people in specific locations on campus
- Determined area occupancy using **'Android Nearby' to discover nearby wireless devices**

SmartGlove | IEEE Hardware Hackathon (3rd Place Winner)
Arduino, C, Gyroscope/Accelerometer | Feb 2017

- Designed glove to wirelessly **control IoT devices** using simple gestures
- Manipulated devices, including lights and speakers, by sending commands through TCP local WiFi socket using two Arduino Nanos

SKILLS

Languages

- C++
- C#
- Java
- PHP
- C
- Python
- JavaScript
- XAML

Technologies/Frameworks

- OpenCV
- LAMP Stack
- Redis
- ROS
- Node.js
- .NET Core

Tools

- Git
- Arduino
- Unity
- Azure
- Unix
- VSTS

EDUCATION

University of Waterloo
2016 - 2021

BASc in Honours Mechatronics Engineering Co-op

Relevant Courses

- Real Time Operating Systems
- Microprocessors and Digital Logic
- Data Structures and Algorithms
- Sensors and Instrumentation
- Digital Computation

ACCOMPLISHMENTS

- President's Scholarship of Distinction
- Chancellor's Scholarship
- TDSB Top Scholar (99.3% avg)
- Richard Kiyonaga Award
- 2nd Place Microsoft Intern Smash Tournament

HOBBIES/INTERESTS

- Varsity Ultimate
- Road Biking
- Hiking
- Speedcubing
- Snowboarding
- Robotics