Thomas Arellano

Computer Engineering

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SKILLS

- Proficient in **C++, C#, Java, and Android development** through work, projects, and various programming courses
- Experienced using **git, SVN, and JIRA** in an agile work environment
- Able to use **Visual Studio, Android Studio, IntelliJ, Eclipse, and Arduino IDE** to build and test code effectively
- Familiar with **HTML5, CSS, and Bootstrap** through work on personal website and other projects
- Exceptional independent worker demonstrated by **building complete Android app** with little guidance at BanaLogic

EXPERIENCE

THESCORE INC. | Android Automated QA Co-op
Jan 2017 - Apr 2017 | Toronto, ON

- Collaborated with a team of engineers in an agile environment to test and develop theScore's Android Sports App
- Created **python script** to automate licensing by processing open source libraries and outputting generated HTML to CMS
- **Developed unit tests** for various aspects of the app using **testing frameworks including JUnit, PowerMock, and Mockito**
- Built and improved instrumentation tests using **Espresso** leading to meaningful continuous integration reports from Jenkins
- Worked with **databinding, JSON, and proprietary APIs** to implement new features and designs in the core app

BANALOGIC CORPORATION | Software Developer
May 2016 – Aug 2016 | Richmond Hill, ON

- **Developed Android application** to test and report vehicle's diagnostic for standardized vehicle emission quality
- Used the **java native interface** to work with device serial port for vehicle-to-device communication
- Collaborated with hardware engineer to manufacture custom microcontroller for OBD2 port transmissions
- Implemented **XML serialization using kSOAP2-android** to send diagnostics to **SOAP WebService following HTTPS**
- Designed clean and efficient UI to allow any car owner the ability to diagnose their vehicle in **less than 2 minutes**
- Tested various types of vehicle standards, diagnostic trouble codes, and parameters to ensure quality reports were created
- Created UI framework for state machine based **.NET application using Windows Workflow Foundation**
- Exposed to **LINQ, JSON, and REST APIs** working on WinForm entry screens for vehicle registration solutions

PROJECTS

LEDGER | Android Application
Apr 2017 – Present | Toronto, ON

- Developed application to record simple transactions between friends using **SugarORM** for persistent storage
- Designed elegant user interface using **ButterKnife** to view all ledger entries inside custom recycler view

KARNAUGH MAP SOLVER | Android Application
Jun 2016 – Present | Waterloo, ON

- Developed custom implementation of the **Quine-McCluskey Algorithm** to solve Boolean functions generated by K-Maps
- Used **Dijkstra shunting-yard algorithm** to interpret infix expressions in order to generate K-Maps from a Boolean function
- Currently working on application UI with custom K-Map views and animations

SELF DRIVING CAR | Arduino Hack
May 2015 – Jun 2015 | Guelph, ON

- Lead a team in building an autonomous RC car, optimizing steering with use of a custom servo-motor
- Programmed **automatic steering** using feedback from range finders to maneuver and avoid obstacles in its path

EDUCATION

UNIVERSITY OF WATERLOO | Candidate for Bachelor of Applied Science, Computer Engineering
Expected May 2020 | Waterloo, ON

Relevant Courses:

- **Algorithms and Data Structures**: Studied different data structures and abstract data types; gained an understanding of algorithms from searching to sorting through algorithm analysis