**Shaoyu Zhu**

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**SUMMARY**

* Background in Android System validation and development, operating system (Unix and Linux about bootloader, kernel etc.), and in vehicle CAN message communication
* Experience on data mining, along with machine learning
* 5+ years’ programming experience in C, Java, XML and MATLAB
* Experience in using C++, PHP, Simulink, and JavaScript

**PROFESSIONAL EXPERIENCE**

**General Motors Company Warren, MI**

**Infotainment 3.0 Software Engineer** July 2016-present

* Working on manually validation for MY19 Android Energy App function to guarantee it works correctly on different GM system release build.
* Simulating validation environment by sending CAN message to infotainment 3.0 CSM module through Vehicle Spy.
* Developing the automation test script in XML to improve the validation of MY 19 Android Energy App function.
* Flashing new J5 Linux system and J6 Android system of release build on CSM module to ensure the smooth progress of validation
* Response for the performance KPI test of MY 20 General Motors infotainment 3.0 system.

**The University of Michigan-Dearborn Intelligent System Lab Dearborn, MI**

**Research Assistant** May 2015-Jul 2016

* Developed two Android Applications in Java and Android SDK on Android Studio for drivers’ activities recording by voice recognition, wire button control and touch screen.
* Transferred recorded data from Android device to Internet database in Java and PHP through Wi-Fi connection to improve the drivers’ activities data organization.
* Designed mathematical algorithm in MATLAB to select out 4 better physiological signals and OBD signals to build up neural network for classifying and predicting driver activities. (funded by Ford Motor Company)
* Designed vehicle collision warning algorithm and intelligent system through analyzing and summarizing 30 GB of vehicle to vehicle (V2V) communication signal data in MATLAB.

**University of Michigan-Dearborn Dearborn, MI**

**Teaching Assistant for Advanced Software Techniques in Computer Engineering (C++)**Jan 2015-Apr 2015

* Assisted students in developing advanced concepts and techniques of modular object oriented and structured programming (C++).

**EDUCATION**

**Master of Science in Engineering,** **University of Michigan-Dearborn, Dearborn, MI** April 2016

Major: Electrical Engineering GPA: 4.0/4.0

**Bachelor of Science, Chongqing University of Posts and Telecommunications, Chongqing, China** June 2013

Major: Electronic Information Engineering GPA: 3.5/4.0

**PROJECTS**

**Design and Simulation of Anti-Lock Braking System (ABS system) (MATLAB, Simulink, DFMEA)**

* Simulated and researched Anti-Lock Braking System which decreases 40% of braking distance on Simulink.
* Used DFMEA to analyze the potential failure mode, potential effect of failure and other parts of the ABS system.

**Digital Signal Processing---Digital Audio Effect Simulation (MATLAB, Simulink)**

* Designed a system in Simulink and MATLAB to improve audio effects such as echo, chorus, and reverberating by changing the audio in different frequencies range.
* Changed the speed of audio by using MATLAB script program.

**Embedded Infrared Remote Controller (C, Microcontroller/Microprocessor, KEIL)**

* Developed an IR remote controller through writing and debugging embedded C code on microcontroller (AT89C51).
* Received and sent 38kHz infrared control signal of remoter through serial data communication.

**Embedded Basketball Scoring System (C, Microcontroller/Microprocessor, PROTEUS, KEIL)**

* Designed and simulated the circuit of basketball scoring system on PROTEUS.
* Used software development life cycle to design and program software part of the system in C on Microcontroller.

**iTunes User Interface Design (Java, JSON, Eclipse)**

* Designed GUI in Java on Eclipse to make users interact with iTunes easier.
* Used JSON to achieve the data transmission between GUI and iTunes database.

**SKILL**

**Hardware:** CSM board, Embedded MCU; FPGA(VHDL/Verilog)

**Software:** Java, XML, C/C++, Matlab/Simulink, PHP, JavaScript, JSON, HTML, CSS, SQL, VHDL

**Tools:** Android Studio, Eclipse, Vehicle Spy, KEIL, Quartus II, PROTEUS, Microsoft Office Suit, PostgreSQL, Brackets

**HONORS & AWARDS**

National Scholarship awarded By the Ministry of Education of the People's Republic of China Nov 2012

1st place National Mathematical Contest in Modeling Oct 2011