Prem Acharya

Contact Information

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Education

California State University Los Angeles **Mar 2016**
M.S. Electrical Engineering
Majored in Computers and Communications

U.V. Patel College of Engineering, Gujarat, India **May 2014**
B.Tech. Electronics & Communication Engineering

Professional Experience

Shelton Software Services, Firmware Engineer **Oct 2016 – Present**

- Developed device drivers including UART drivers for communicating with ARM Cortex-M3 (EFM32) based human implantable pump using C/C++.
- Responsible for developing, testing and documenting firmware drivers.

Alfred Mann Foundation, Firmware Engineer Intern **May – Sep 2016**

- Developed low power mode, RTC, ADC, flash and watchdog drivers for ARM Cortex-M4 micro-controller (MSP432) for a human implantable respiratory sensor following object oriented and event driven design patterns using C/C++.
- Responsible for unit testing, documentation and implementation of device drivers.

Mantra Softech Pvt. Ltd., Embedded Systems Engineer Intern **Jan – Aug 2014**

- Developed a proof of concept machine for fingerprint-based voting using 8-bit micro-controller AT89S52, fingerprint sensor and EEPROM AT24C02.
- Programming for the device was done in C language.
- Responsible for programming, hardware interfacing and testing of the device.

Tools & Technologies

Software: Code Composer Studio, Simplicity Studio, Gitlab, Mercurial, Keil Vision, Xilinx ISE, Arduino, Opnet, VeriLogger Pro, PSoC Creator and Programmer, Altera Quartus II

Languages: C/C++, Python, LabVIEW, Verilog HDL, Assembly, Java, Simulink

Tools: JTAG, Oscilloscope, Spectrum Analyzer, Waveform Generator

Personal & Academic Projects

Modified MIPS Lite (MML) multi-cycle design project **Sep – Dec 2015**

- Drafted the 16-bit multi-cycle datapath for Modified MIPS-Lite (MML) ISA.
- Programmed the memory file, register file, ALU and ALU controller using Verilog HDL in Xilinx ISE.

Temperature and fire protection system **Sep – Dec 2014**

- Created a temperature and fire protection system using ARM Cortex-M3 based PSoC 5 micro-controller.
- Developed the software using C for temperature Sensor TMP36 and smoke Detector MQ-2.

Micro-controller based moving message display **Jul – Dec 2013**

- Created a moving message display using 8-bit micro-controller AT89C51 and a 16-segment LED display.
- Developed the software using C which would display moving messages over the LED.