SWAPNIL CHAUGHULE

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OBJECTIVE

To obtain a challenging Software Engineering position where I can utilize and enhance my programming, hardware, research and qualitative skills

EDUCATION

UNIVERSITY OF MASSACHUSETTS LOWELL, MA, USA
Master of Science in Computer Engineering, GPA - 3.6 — December 2017

UNIVERSITY OF MUMBAI, MH, INDIA
Bachelor of Engineering — June 2015

PROGRAMMING SKILLS

C, C++, Python, Java, Data Structure, Algorithms, Object Oriented Programming, Device Drivers

TOOLS

OpenCV, **Matlab, GIT, GNU Debugger, Wireshark, Minicom, IAR Workbench, Mplab, Magic draw, Visual Studio, Android Studio, Eagle, Solid Works, AutoCAD, VMware**

PROTOCOLS

RS-232, USB, TCP/IP, UDP, UART, I2C, SPI

COURSES

Computer Architecture and Design, Software Engineering, Network Design, Microprocessor Systems II and Embedded Systems, Operating System, Network Security, Data Mining, Signal Processing

EXPERIENCE

CMINDS, University of Massachusetts Lowell, Lowell, MA
Graduate Student Researcher — October 2016 – December 2017

- Mentored by Prof. Dalila Megherbi
- Studied and Implemented different information hiding algorithms using Matlab and C++

MASTER'S THESIS

A New Robust, Secure and High Capacity Watermarking Schemes for Image Authentication and Recovery via the Discrete Wavelet and Arnold Transform — December 2017

- Implementing a watermarking algorithms to embed and encrypt message image in a carrier image
- Implementing a solution to detect and recover from tampering on message image

RELEVANT PROJECTS

Client-Server Architecture based Remote Login Application — November 2016

- Engineered a concurrent server to execute Linux commands given by client using C
- Implemented an inter-process communication between processes using sockets

Simulated Memory Management System of Operating System — October 2016

- Simulated working of memory management unit using threads on Linux using C++
- Implemented first fit, best fit and worst fit algorithm and evaluated their performance

Intel Galileo and PIC16F688 based Real Time Data Acquisition — February 2016

- Designed and implemented a multithreaded customized bus protocol using C
- Used POSIX threads to read data from the sensors
- Updated the acquired data on a server with the timestamp obtained from RTC

STM32F107 based Wireless Sensor Network — January 2016

- Designed a base station receiver for a wireless sensor network using C
- Simulated multiple sensor nodes which relayed climatic data packets to STM32

Data Transfer using UDP over an Unreliable Connection — October 2015

- Implemented user datagram protocol(UDP) for data transfer using Python
- Designed reliable data transfer(RDT) 2.0, 2.2, 3.0 and Go Back N protocol over UDP

Protection of Transformer and Real Time Analysis of Oil Parameters — April 2015

- Captured and monitored data packets from sensors using ATMEGA328p
- Analyzed packets to detect transformer failures