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

MASTER'S THESIS

A Secure Watermarking Algorithm for Tamper detection and Recovery of Embedded Data from an Image Using Discrete Wavelet Transform and Arnold's Transform   January 2017 – Present
- Implementing a watermarking algorithm 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