SURYA TEJA PARUCHURI

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EDUCATION

University of Maryland, College Park, MD.
Master of Science in Telecommunications (Academic Excellence Scholarship, Feb.'17) GPA: 3.86. May 2017

VIT University, Vellore, India.
Bachelor of Technology in Electronics and Communication Engineering GPA: 8.35/10 May 2014

SKILLS

- ✓ *Programming languages:* MATLAB, C, C++ (with GDB), Java, Bash[1], Python[1].
- ✓ *Hardware, RTOS & API's:* TI-MSP430F5529, TI-RTOS, NVidia-CUDA, NI-Vector Signal Transceiver, Thrust library.
- ✓ *Typesetting & Productivity:* Windows, Linux, Microsoft Office, LaTeX, VIM, Git.
- ✓ *Wireless Technologies:* OFDM, LTE, HSPA, EVDO, UMTS, CDMA-2000, CDMA, GSM, Bluetooth, 6LoWPAN.
- ✓ *Network Protocols:* TCP/IP, OSI, DNS, HTTP, IPv4, RIP, IGRP, EIGRP, OSPF, BGP.

SELECTED PROJECTS

Extending Texas Instruments RTOS, University of Maryland Spring 2017

- Mastered multi-threaded programming in a commercial Real-Time Operating System (RTOS) by implementing a multi-threaded LIFO buffer in C for MSP430F5529 microcontroller.
- Synchronization in shared memory (Producer-Consumer model) is achieved through mutex locks.

RTOS Scheduler Simulations, University of Maryland Spring 2017

- Mastered discrete event simulation by implementing Real-Time Operating System scheduler simulator for FIFO, Earliest deadline First (EDF) and Rate Monotonic Scheduling (RMS) in C++, using C++ Standard Template Library.

OFDM Tx/Rx chain with Rayleigh fading channel, University of Maryland. Spring- 2016

- Modelled a LTE-Release 10 based OFDM transceiver in MATLAB, with Rayleigh fading channel, QPSK & 16QAM modulated pilots and data, cyclic prefix, transmit/receive filters and zero-forcing equalizer.
- Reported on advantages of an OFDM system in a fading cellular channel against complex channel equalization.

UDP based Network Application, University of Maryland November 2015

- Mastered Network programming by developing a UDP based RC4 encrypted network application in Java, with application level reliability, in a team of two.

RESEARCH & TEACHING EXPERIENCE

Voluntary Research Assistant, University of Maryland December 2016 – May 2017

- Implemented social ties based coalition formation algorithms for Internet of Things (IOT) and self-organizing museum visitors communities formation in MATLAB and verified numerical results against analytical results.
- Co-authored two conference papers presented at *51st Conference on Information Sciences and Systems and 12th International Workshop on Semantic and Social Media Adaptation and Personalization.*

Research Project Assistant, Indian Institute of Science, India July 2014– May 2015

- Reduced algorithmic complexity and improved QRS detection in ECG by implementing a light weight statistical signal processing algorithm, compared to Pan Tompkins and Wavelet based beat classification algorithms in MATLAB.
- Developed Fuzzy Logic based medical diagnosis algorithm- to remotely assess patient's health in MATLAB.
- Expedited testing of *6LowPAN* Wireless Sensor Network (WSN) by fixing data misinterpretation in socket program.
- Co-authored a conference paper presented at *12th IEEE International Conference on Services Computing.*

Teaching Assistant, University of Maryland September 2016 – Present

- Improved my teaching skills by tutoring students (fall-86 students & Spring-89 students) from Operations Research course.

[1]- *Novice.*