SURYA TEJA PARUCHURI

(Student Member- IEEE & SIAM)

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EDUCATION

University of Maryland, College Park, MD.
Master of Science in Telecommunications CGPA: 3.86. Top 5% Expected – May 2017
Honors: Awarded 2016 ENTS Academic Scholarship.
Relevant Courses: Wireless Networks and Systems, Wireless OFDM Systems, Algorithms & Data Structures, Embedded Systems.
VIT University, Vellore, India.
Bachelor of Technology in Electronics and Communication Engineering CGPA: 8.35/10 Top 10% May 2014

SKILLS

- *Analytical:* Monte-Carlo analysis, Linear/Nonlinear programming, Regression, Time series forecasting.
- *Programming languages:* Proficient: {MATLAB, C, C++} Novice: {Java, Bash}.
- *Typesetting & Productivity:* Windows, Linux, Microsoft Office, LaTeX, VIM.
- *Technologies:* OFDM, LTE, HSPA, EVDO, UMTS, CDMA-2000, CDMA, GSM, Bluetooth, 6LoWPAN.
- *Network Protocols:* TCP/IP, OSI, DNS, HTTP, IPv4.

RESEARCH EXPERIENCE

Voluntary Research Assistant, Institute for Systems Research, University of Maryland December 2016 – Present

- Implemented social interests based coalitions formation and resource allocation algorithms for Internet of Things (IOT) in MATLAB, and verified numerical results against analytical solutions.
- Implemented social interests based self-organizing communities formation algorithm towards a participatory action research based museum visitors approach in MATLAB.
  - ✓ Co-authored a conference paper due to be presented at ***51st Conference on Information Sciences and Systems.***
  - ✓ Submitted a manuscript to ***12th International Workshop on Semantic and Social Media Adaptation and Personalization***

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

- Developed Fuzzy Logic based medical diagnosis algorithm- to assess patient's health towards a *6LowPAN based Cyber Physical System for remote health monitoring* in MATLAB.
- Implemented a statistical signal processing algorithm for QRS detection in ECG in MATLAB, improved heart anomalies detection and reduced complexity significantly compared to Pan Tompkins and Wavelet based beat classification algorithms.
- Expedited deployment/field testing of Wireless Sensor Network (WSN) by preventing data misinterpretation in socket program.
  - ✓ Co-authored a conference paper presented at ***12th IEEE International Conference on Services Computing***.

RELEVANT WORK EXPERIENCE & SELECTED PPROJECTS

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

- Modelled independently an OFDM transmitter/receiver chain in MATLAB, with Rayleigh fading channel, QPSK & 16QAM modulated pilots and data, cyclic prefix, transmit/receive filters and zero-forcing equalizer.
- Observed advantages of an OFDM system in a fading cellular channel over complex channel equalization techniques.

Engineering Intern, Defense R&D Organization, India January 2014 – May 2014

- Designed Radar Target Simulator (RTS) using Digital Radio Frequency Memory (DRFM and real time signal processing algorithms on FPGA, for hardware in the loop testing of Active Antenna Array Unit (AAAU) of Primary Radar (PR) system.
- RTS significantly reduces testing costs through ground based testing of avionics compared to air based testing process.

Suppressing Non-stationary Noise in Voice Signals using Kalman filter, VIT Uni. July – October 2012

- Implemented with a fellow student an algorithm for suppression of Non-stationary noise in voice signals using Kalman Filter.

LEADERSHIP & SERVICE

Teaching Assistant, University of Maryland September 2016 – Present

- Improved my mentoring skills by resolving junior students (fall-86 & Spring-89) questions from Operations Research course, grading homework, term exams and organizing make-up exams.

Vice president, IEEE Electron Devices Society-VIT, VIT University, Vellore, India May 2012 – July 2013

- Supervised the organization of guest lectures and national workshops to bolster awareness on Nano Sciences.
- Decided chapter's events and advertised to increase chapter's membership by 30%.