ARTHI S

Email: arthis@iisc.ac.in, sarthi314@gmail.com
Ph: +91 75988 73731

EDUCATION

- Indian Institute of Science, Bangalore
  - Ph.D. in Electrical Communication Engineering, October 2020 – Present
  - Advisor: Prof. Neelesh B. Mehta
  - CGPA: 8.7/10

- Indian Institute of Technology Madras, Chennai
  - MTech in Communication Systems, July 2015 – May 2017
  - CGPA: 8.69/10

- College of Engineering Guindy, Anna University, Chennai
  - BE in Electronics and Communication Engineering, July 2011 – May 2015
  - CGPA: 9.42/10

- T.N.P.M.M.A.N.Girls Higher Secondary School, Thalavaipuram
  - Class XII, 2011
  - Percentage: 98.2%; 3rd highest in Virudhunagar District, Tamil Nadu

EXPERIENCE

- **Radio Frequency Engineer at Qualcomm India Private Limited, Hyderabad (July 2017 – Sep 2020)**
  - Part of the team responsible for the development of RF drivers and automation tools for calibration and verification in Qualcomm modems spanning multiple generations
  - Developed a suite of PERL-based tools and tests for automatic internal regression checking of physical layer and RF parameters
  - Proficient working knowledge of RF Software test methodologies of mobile handsets for bring-up and certification
  - Conversant with wireless technologies like LTE, WCDMA, CDMA, GSM, and C-V2X

- **Student Trainee in Samsung R&D Institute, Bangalore (June – July 2016)**
  - Study of wireless technologies (1G – 4G), Doppler and CQI estimators
  - Log analysis with various applications (voice call, data, etc.,) in single SIM mobile

- **Summer Research Fellow in Raman Research Institute, Bangalore (May – July 2014)**
  - Worked on the MATLAB–based project "Study of Application of Ramanujan Sums Transform for Image Compression"
  - Proposed triangular RS matrix which gives higher compression of images, and the results are compared with the DCT and Hadamard transforms

RESEARCH PROJECTS

- **OFDM vs. FBMC in the context of NB-IoT**
  - MTech thesis project, Advisor: Prof. R. David Koilpillai

- Developed common multi-rate DSP framework and unified understanding in the context of NB-IoT based on the evaluation of PAPR, BER performance and computational complexity
- Analyzed the three types of FBMC techniques – Cosine Modulated Multitone, Staggered Multitone, and Filtered Multitone
- Explored the reduction in out-of-band spectral emissions gained by using FBMC as opposed to the traditional OFDM

- **A Study on Performance of Different Bandit Algorithms in Non-Stationary Fading Channels**
  - Course Project in Adaptive Signal Processing
  - Modeling of different fading phenomenon in a communication channel and observe the performance of few stochastic and non-stochastic bandit algorithms at each of the fading events

- **Impact of Correlated interferers on Rate and Coverage probability in Cellular systems**
  - Course Project in Introduction to Wireless and Cellular Communications
  - Proved that the rate and coverage probability in the presence of correlated interferers are greater than or equal to the rate and coverage probability in the presence of independent interferers

- **Energy Efficient Coordinated Beamforming Design in Multi-cell Multicast Networks**
  - Course Project in Digital Modulation and Coding
  - Beamforming vectors are designed with the maximization of the worst-case system energy efficiency while guaranteeing that received signal-to-interference-plus-noise ratio (SINR) at each user is above a predetermined threshold

- **Automated driving license system**
  - Undergraduate thesis project, Advisor: Prof. N. Ramadass
  - Automated driving license system using MATLAB and Video-processing. The proposed technological solution for the automation of the existing manual test process enables the elimination of human intervention and improves the driving test accuracy

COURSEWORK

- **IISc, Bangalore:** Random Processes, Digital Communication, Matrix Theory, Detection and Estimation Theory, Wireless Communication, Wireless Networks, Computational Methods in Optimization, and the Next Generation Wireless System Design

- **IIT Madras:** Information Theory and Coding, Digital Signal Processing, Digital Modulation and Coding, Probability Foundations, Applied Linear Algebra, Detection and Estimation Theory, Wireless Communication, Image Signal Processing, Adaptive Signal Processing, and Digital Filter Design

EXTRA-CURRICULAR ACTIVITIES

- Presentation on "A Unified Framework for Evaluation of 5G IoT Waveforms" at Qualcomm Innovation Fellowship, India in May 2016
- Presented "A new revolutionary system to detect human beings buried under earthquake rubble using microprocessor or microcontroller" in Resonance 2013, College of Engineering Guindy, Chennai
- Core member in Vision 2015, Senior Executive Member of Students Quality Club, and Secretary of NSS Unit-5 in College of Engineering Guindy, Chennai
- 5S Implementation in the workplace of Students Quality club during August – October 2013
- Attended Young Student Scientist Program (YSSP) in ANJA College, Sivakasi in May 2008, and May 2009