

AKSHAY CHANDRASHEKAR RAIKAR

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EDUCATION

Master of Science in Electrical and Electronics Engineering <i>University at Buffalo, The State University of New York</i>	Aug 2021 – Feb 2023 GPA: 3.79/4.0
<ul style="list-style-type: none">Relevant Courses: MIMO Wireless Communication, Principles of Modern Digital Communication, Principles of Networking, RF /Microwave Circuits, Digital Signal Processing, Internet of Things	
Bachelor of Engineering in Electronics and Communication <i>Visvesvaraya Technological University, Bengaluru, India</i>	Aug 2016 – Aug 2020 CGPA: 8.10/10

EXPERIENCE

Graduate Student Researcher <i>Wireless Networks 4 Smart Systems Lab, University at Buffalo</i>	Nov 2021 – Jun 2022
<ul style="list-style-type: none">Developed a low cost, low complex, LTE enabled Micro Phasor Measurement Unit (μPMU) by employing ARM Cortex-M3 Microcontroller.Transmitted synchrophasor frames compliant with IEEE C37.118.2 standard using LTE cat-M u-Blox SARA-R4 module and evaluated LTE performance for a variable rate of transmission from 50 Hz to 80 Hz.Utilized internal timers of Arduino to bring down form factor and performed data transmission from multiple μPMUs to Phasor Data Concentrator (AWS EC2 Linux instance) by deploying UDP and assessed end-to-end delay.	
Internet of Things Intern <i>Nano Robotics and Embed Technologies, Bengaluru, India</i>	Jan 2020 – Feb 2020
<ul style="list-style-type: none">Teamed up with three fellow interns on "Accident detection and Prevention Mechanism" project which simplified the vigilant system through integration of Vibration Sensor SW-18010P, GSM module and GPS module.	

TECHNICAL SKILLS

Programming Languages: MATLAB, Python, Verilog
Certifications: 5G for Everyone, Google IT Certification, Python Data Structures, Neural Network and Deep Learning
Core Competencies: LTE Architecture (PHY, MAC), OFDM, MIMO, Networking (TCP, IP), Ambitious and Motivated
Equipments: Vector Network Analyzer, Oscilloscope, Multi-meter, USRP B210 SDR

PROJECTS

Implementation of srsRAN	Jun 2022 - Present
<ul style="list-style-type: none">Currently working at Wireless Intelligent Networking and Security (WINGS) lab in implementing srsRAN, an open source 4G LTE/ 5G NR Software Radio suite onto Raspberry Pi 4. Trying to connect multiple eNode-B's (enB) to a Evolved Packet Core (EPC) and establish wireless communication using mmWave routers.	
MATLAB Simulations	Feb 2022
<ul style="list-style-type: none">Simulated BPAM, 4-PAM and 4-QAM digital modulation schemes for optimum receiver detection and examined results by plotting SER and BER curves.Generated four independent Rayleigh fading channels using Jake's fading simulator and plotted number of channel samples to channel amplitude in dB scale to review slow and fast fading.	
3-section Microstrip Directional Coupler using ADS	Nov 2021
<ul style="list-style-type: none">Designed a 22dB parallel line 3-section coupler with a center frequency of 3 GHz and a bandwidth of 4 GHz.Utilized Rogers RT board, to devise coupler with specific design constraints and compensated parasitic inductances and capacitances.	
Performance Analysis of wavelets in De-noising Audio Signals	Nov 2021
<ul style="list-style-type: none">Constructed denoised signal at receiver by decomposing, thresholding, and reconstructing of a realistic noisy audio signal. Analyzed performance of different mother wavelets and achieved SNR of 9.29 dB for db4 wavelet.	