Aniruddh Venkatakrishnan

The University of Texas at Austin
Wireless Networking and Communications Group,
Department of Electrical and Computer Engineering
Email-id : **aniruddh.venkat@utexas.edu**

ACADEMIC DETAILS

Education Level	Specialization	Institute	Year	GPA / %
Graduate	*Electrical and Computer Engineering*	UT Austin	Ongoing	4.0/4.0
Undergraduate	*Electrical Engineering (Hons.)*	IIT Madras	2018	9.29/10
High School	*Maths and Science stream*	MVM, Chetpet	2014	96.0%

PROJECTS and EXPERIENCES

- **Coordinated Multi-point Optimization** (Graduate Research Assistant)
  (Guide: Prof. Gustavo Deveciana, Jan'22 - Ongoing)
    - Optimizing RRH clustering methods
    - Improving mobility handovers in small cells

- **Opportunistic Overlapping in Uplink Heterogenous NOMA** (Graduate Research Assistant)
  (Guide: Prof. Gustavo Deveciana, Jan'21 - Dec'21)
    - Joint scheduling method for best-effort and priority traffic in uplink
    - Optimizing the power-control for NOMA

- **End to end 5G Testbed** (Standards Lead in the Indian 5G Testbed)
  (Guide: Prof. Radhakrishna Ganti, August'18 - Jan'21)
    - Working on implementation of the physical layer aspects of NR
    - Built simulator for testing current standards and implementing proprietary algorithms

- **Distributed storage using Coding** (BTech project)
  (Guide: Prof. Pradeep Sarvepalli, Sept'17 - June'18)
    - Worked on improving data transfer latency aspect in distributed storage
    - Proposed a solution of a variant of a code with lower complexity

- **Beam Alignment in MMW** (Research Internship in **Purdue University,USA**)
  (Guide: Prof. Nicolo Michelusi, May'17 - Jul'17)
    - Worked on user tracking within LOS (for efficient beamforming)
    - Simulated traffic model in a network to estimate mobility pattern.
    - Solved for a control algorithm to transfer data to user with minimal power.

- **Indian Institute of Technology Madras Satellite** (Project)
  (Guide: Prof. David Koilpillai, Dec'15 - Jul'16)
    - Part of team creating a satellite to detect earthquakes.
    - Worked with the Command and Data Management team, on sending and receiving telecommands.
    - Commands to be decoded, processed and implemented within the limited RAM and time.

- **Avanti** (Winter Internship in Jawahar Navodaya Vidyalaya, Pondicherry)
  *(**Social Initiative**, Dec'15)*
    - Mentoring under-privileged 11th and 12th graders.
    - Coaching them in Maths, Physics and Chemistry to excel in competitive exams.

- **Error Correction in Serial Data** (Summer Internship in DRDO - Govt. of India)
  (Guide: Sr. Scientist P Balasubramanian, May'16 - Jul'16)
    - Real-time reception of serial data and correction of bit errors.
    - Analysis on optimal frame length and error correcting code to optimize throughput.
    - Analysis of possible data rates using previously known optimal CRC codes.

FIELDS OF INTEREST

- ULL communication
- NOMA power control
- Densification of Cell clusters
- Network Optimization
- CoMP
- Industry 4.0

TECHNICAL SKILLS

- LTE and NR physical layer standards
- Wireless Networks
- Digital Communication
- Information theory
- Error Control Coding
- Probability and Linear Algebra
- Signal Processing
- C, C++, Python, MATLAB
- Data Structures and Algorithms
- Machine Learning

COURSES

- Reinforcement Learning
- Error Control Coding
- Wireless Networks
- Wireless and Cellular Communications
- Algorithm Techniques
- Analysis and Design of Communication Networks
- Online Learning
- Convex Optimization

ACHIEVEMENTS

- Secured **All India Rank 78** in Graduate Aptitude test in Engineering 2018
- Secured **All India Rank 2** in Indian Engineering Olympiad 2016
- Placed **2nd** in MIMAMSA quiz from IISER, Pune in 2015
- Secured **All India Rank 424** in IITJEE 2014
- Awarded **KVPY** SA scholarship by Govt. of India in 2013
- Secured **All India Rank 3** in FIITJEE National Science Talent Search Exam 2011