KANISHAK VAIDYA

Senior Engineer at Qualcomm, Wireless Research and Development

E-mail: kanishakvaidya@gmail.com **Website:** kanishakvaidya.github.io/phd-progress/ **Location:** Bengaluru, India

Education

- **PhD** from IISc Bangalore. Nov 2023
  Specialization: Electrical Communicaion. Privacy of distributed systems.
  CGPA: 8.9 / 10
- **M.Tech:** from IISc Bangalore Jul 2023
  Specialization: Signal Processing.
  CGPA: 8.9 / 10

Academics and Scholarships

- Granted **PMRF**: January 2020
- GATE (EC) 2018: **AIR 10. GATE Score: 1000**
- **Junior Mathematical Olympiad:** 2011. AIR 30

Technical Strengths

- **Programming:** Python, Octave/ MATLAB, C/C++, Bash scripting
- **Softwares and Modules:** PyTorch, PyG, Tensorflow, OpenCV, LTspice, LabView, Arduino IDE, SimuLink
- **Miscellaneous:** Linux, SSH, git, LaTeX, HTML/CSS, vim, emacs

Professional Skills

- Research and analysis
- Efficient team oversight and coordination
- Abstract and critical thinking
- Problem solving

Industrial Trainings

- **BSNL Mandi:** 45 Day industrial training on *telephone exchange*, *main distribution frames* and *switching*.
- **RWIT:** Workshop on wireless technologies, IoT and 5G
- **INMOTC:** KV Dhaula Kuan, Delhi. Focus on Complex analysis, Number theory and geometry

ABOUT ME

As a Senior Engineer in Wireless Research and Development team at Qualcomm, Bangalore, my work is on modern communication technologies. Being a PhD from IISc, ECE department, I have strong background in signal processing, coding, and machine learning and I've also worked on image processing and computer vision projects.

EXPERIENCE

Qualcomm, Bangalore | Feb 2024 - Present | *Senior Engineer, WRD Team*

Focus on modern wireless technologies like 5G and digital twin. Building machine learning architecture to predict various properties of wireless networks. Using ML based predictions for better resource allocation or for network analysis.

IISc, Bangalore | Jan 2020 - Jul 2023 | *Teaching as PMRF TA*

As part of PMRF responsibilities, taught GATE EC related courses at various institutions. Taught 2nd and 3rd year students. Subjects: Networks, Signal and systems, communication systems and misc topics on electromagnetic field theory, analog and digital electronics. Focused on problem solving and previous year GATE problems.

RECENT PUBLICATIONS

- K. Vaidya and B.S. Rajan, **"Multi-Access Cache-Aided Multi-user Private Information Retrieval"** in IEEE Transactions on Communications, doi: 10.1109/TCOMM.2024.3375810.
- K. Vaidya and B.S. Rajan, **"Cache-Aided Multi-User Private Information Retrieval using PDAs"** IEEE TComm, https://doi.org/10.1109/TCOMM.2023.3325473.
- K. Vaidya and B.S. Rajan, **"Private Information Delivery with Coded Storage,"** IEEE ISIT 2022, Espoo, Finland, 24 June – 2 July 2022.
- **Other publications**: kanishakvaidya.github.io/phd-progress/publications

PROJECTS

- **Communications:** OFDM simulation and analysis on Simulink and MATLAB
- **Communications:** Created python modules for finite field operations
- **Computer vision**: Camera rotation and translation from images on python
- **Hobby projects:** Maintain a Linux distribution and package repository
- **Other projects:** kanishakvaidya.github.io/phd-progress/projects

KEY COURSES

Digital Communication	Error Control Coding	**Matrix Theory**
Wireless Communication	**Random Process**	Detection and Estimation
Space-Time Coding	Information Theory	**Optimization theory**
Computer Vision	**Machine Learning**	Digital Image Processing