

# KANISHAK VAIDYA

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🌐 <https://kanishakvaidya.github.io/phd-progress/>

## Publications

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- Kanishak Vaidya and B. Sundar Rajan “Cache-Aided Multi-User Private Information Retrieval Using PDAs” 2023 IEEE Information Theory Workshop (ITW), Saint-Malo, France, 23-28 April 2023.
- Kanishak Vaidya and B. Sundar Rajan “Cache-Aided Multi-Access Multi-User Private Information Retrieval” WiOpt 2022, 20th International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Networks, CCDWN Caching, Computing and Delivery in Wireless Networks Workshop, September 2022, Turin Italy.
- Kanishak Vaidya and B. Sundar Rajan, “Private Information Delivery with Coded Storage,” 2022 IEEE International Symposium on Information Theory, 2022, pp. 2011-2015, doi: 10.1109/ISIT50566.2022.9834634.
- Kanishak Vaidya and B. Sundar Rajan, “Distributed Computation: Privacy, Straggler Mitigation, and Security Against Colluding Workers,” GLOBECOM 2020 - 2020 IEEE Global Communications Conference, 2020, pp. 1-6, doi: 10.1109/GLOBECOM42002.2020.9322092.

## Academic Background

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**PhD, M.Tech** (Signal Processing)  
CGPA: 8.9 — Credits: 34

IISc Bangalore  
August 2018 - Present

**B.Tech** (Electronics and Communication Engineering)  
Percentage: 69.4%

JNGEC Sundarnagar, HPTU  
August 2013 - July 2017

**Class 12** (Medical and Non Medical Science)  
Percentage: 85.5%

Kendriya Vidyalaya Mandi HP, CBSE  
2012-13

**Matriculation**  
CGPA: 9.2/10

Kendriya Vidyalaya Mandi HP, CBSE  
2010-11

## Academic Achievements and Scholarships

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- Granted **Prime Minister Research Fellowship** from January 2020
- GATE 2018 (EC), **All India Rank 10**. GATE Score 1000
- Junior Mathematics Olympiad 2011 **All India Rank 30**

## Industrial and Academic Experience

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### • BSNL Mandi

Mandi, Himachal Pradesh  
July 2016 - August 2016

45 Days Industrial Training with focus on *telephone exchange, main distribution frames (MDF) and switching*.

### • RWIT

Sundarnagar, Himachal Pradesh  
January 2016

Workshop on wireless technologies, IoT and 5G

### • INMOTC

KV Dhaula Kuan, Delhi  
December 2011

Attended Indian National Mathematical Olympiad Training Camp focusing on **Complex Analysis, Number Theory** and **Geometry**

## Technical Strengths

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- **Programming and Scripting:** C/C++, Python, Octave/Matlab, Bash scripting, elisp.
- **Software Tools:** Proteus, LabView, Arduino IDE, Simulink.
- **Miscellaneous:** Linux, SSH, Git, L<sup>A</sup>T<sub>E</sub>X, Markdown/Pandoc, vim, emacs.

## Projects

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- **Image Segmentation using Watershed Transform**

M.Tech 1st Semester

Team Size: 2

Software Used: MATLAB and Python

Implemented immersion simulations on grayscale images to segment different regions by using watershed transform.

- **Two Wheel Self Balancing Robot**

B.Tech Final Year

Team Size: 6

Implemented on: ATMEGA 2560

PID control algorithm was used to drive 4 channel DC motor using L298MD motor driver, with input fed from MPU 6050 gyroscope to keep a robot upright on 2 wheels.

- **Plant Self Care System**

B.Tech Prefinal Semester

Team Size: 6

Implemented on: Arduino

DHT and pH sensor was used to feed data about the moisture and pH of soil to Arduino, which in turn control flow of water to plants in drip irrigation system.

- **Pizza Delivery System**

B.Tech 3rd Year

Team Size: 4

Implemented on: AVR

Implemented a line follower equipped with proximity and colour sensor, which will correctly identify required colour (flavour) and size of box and deliver it to correct location.

- **Gesture Controlled Wheelchair**

B.Tech 2nd Year

Team Size: 10

Implemented a circuit in which a gyroscope, whose orientation was control by human subject, was used to control motors attached to a wheelchair.

- **Home Security Alarm**

B.Tech 1st Year

Team Size: 4

Simple circuit based on Transistor switch was implemented using LDR, in which buzzer beeps every time the light falling on LDR was obscured.

## Hobby Projects

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- **Linux Distribution**

2021-2022

<https://kanishakvaidya.github.io/arch-kvos>

Created a linux distribution on top of Arch linux. The distribution uses a manual tiling window manager. Written various modules, scripts and programs to make the distribution lightweight and powerful at the same time.

- **Software Repositories**

<https://kanishakvaidya.github.io/kv-arch-repo>

I maintain my own repositories of softwares that I use quite often and whose pre-build binaries are unavailable.