

# Adway Girish

Second-Year Ph.D. Candidate  
Information Theory Laboratory, Information Processing Group  
School of Computer and Communication Sciences, EPFL

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[Google Scholar](#) 

## Research Interests

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**Information and coding theory** and **applied probability**, particularly in **communication systems**

## Education

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**EPFL** (*Swiss Federal Institute of Technology in Lausanne*)

Lausanne, Switzerland

*Ph.D. in Computer and Communication Sciences*

Sep. 2022–Present

Advisor: Prof. Emre Telatar; CGPA: 6.0/6.0

**IIT Bombay** (*Indian Institute of Technology Bombay / IITB*)

Mumbai, India

*B.Tech. in Electrical Engineering*

Jul. 2018–May 2022

With Honors in Electrical Engineering and Minor in Mathematics; CGPA: 9.60/10

## Publications

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### Conference papers:

- [C3] F. Z. Faizal, **A. G.**, *et al.*, “ICQ: A quantization scheme for best-arm identification over bit-constrained channels,” in *International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Network (WiOpt)*, 2023 [\[arXiv\]](#)
- [C2] S. Sharma, **A. G.**, *et al.*, “Micro-Doppler parameter estimation using variational mode decomposition with finite rate of innovation,” in *IEEE International Conference on Signal Processing and Communications (SPCOM)*, 2022 [\[IEEE Xplore\]](#)
- [C1] S. Sharma, **A. G.**, *et al.*, “Theoretical analysis of an inverse Radon transform based multicomponent micro-Doppler parameter estimation algorithm,” in *National Conference on Communications (NCC)*, 2022 [\[IEEE Xplore\]](#)

## Awards and Prizes

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- Institute Academic Prize for being the second-best academic performer in the EE department at IITB [2020-21]
- IITB Undergraduate Research Award (URA01) for work done in Radar Signal Processing [2020]
- Urvish Medh Memorial Prize for being the highest-ranked student in the EE department at IITB [2018]
- Kishore Vaigyanik Protsahan Yojana (KVPY) fellowship from the Indian Institute of Science (IISc) [2016]
- National Talent Search (NTS) scholarship by National Council of Educational Research and Training (NCERT) [2016]

## Academic Achievements

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- Grade 6.0 (exceptional performance, over 95%) in all four courses credited at EPFL [2022–present]
- AP grades (top 2%) in Digital Communications, Data Analysis at IITB [2021, 2019]
- All-India Ranks of 43 in JEE (Advanced) and 55 in JEE (Main) [2018]
- Final stage of Indian team selection for international chemistry and astronomy olympiads (IOAA and IChO) [2018]
- All-India Rank of 35 in KVPY [2016]

## Teaching

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**Graduate Teaching Assistant (EPFL)**

Fall 2023, Spring 2023

*Principles of Digital Communications, Information Theory and Coding*

- Conducted weekly exercise sessions for problem-solving and doubt-clearing
- Collaborated with the instructor on preparing exams and grading answer papers

- Responsible for handling all course logistics, particularly for the Digital Communications course project: set up servers to simulate noisy channels

### Undergraduate Teaching Assistant (IITB)

Fall 2021, Fall 2020, Spring 2020, Fall 2019

*Electricity and Magnetism, Calculus*

- Mentored batches of 45+ students by conducting weekly tutorial sessions and periodic doubt-clearing sessions
- Responsible for grading exam papers and assignments, and invigilation during exams

## Industry Experience

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### Evaluation of Baseband Behavioural Models for Power Amplifiers

*Summer Internship*

*Texas Instruments (India), Bangalore, India*

May 2021–Jul. 2021

- Performed literature review of Volterra series and Memory Polynomial models and identified reasonable ones to pursue
- Implemented these models on MATLAB, obtaining considerable improvement over those presently in use
- Devised a ‘peeling’ algorithm to make the model implementable on an FPGA and ready for use in a real product

## Mentoring and Responsibility

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### Summer of Science Mentor

Summer 2023, 2022, 2020

*Math and Physics Club, IITB*

- Guided a total of six students on self-paced reading projects in signal processing and information and coding theory by suggesting references and having discussions to clear doubts
- Designed mini-projects based on the reading material for hands-on experience and reviewed their final reports

### Institute Student Mentor

Jun. 2021–May 2022

*for incoming undergraduates at IITB*

- Mentored 12 first-year students, helping them have a comfortable transition and adaptation to college life
- Functioned as the single point of contact for any issues they faced, in particular ensuring that they had the resources to attend online classes from home

### Class Representative

Jul. 2018–May 2019

*for the first-year batch of B.Tech. in Electrical Engineering at IITB (69 students)*

- Created effective communication channels to ensure that all students were kept updated on relevant issues
- Mediated discussions between faculty and the class as a whole to allow for smooth proceedings of courses

## Relevant Graduate-Level Coursework

(default)—IITB, \*—EPFL, \*\*—IITB and EPFL

- **Communication Theory and Systems:** Advanced topics in information theory\*, Information theory and coding\*\*, Error-correcting codes, Communication networks, Wireless and mobile communication
- **Probability and Statistics:** Stochastic calculus\*, Advanced probability and random processes\*\*, Markov chains and algorithmic applications\*, Stochastic optimization, Online learning and bandit algorithms, Estimation and identification
- **Mathematics:** Distribution theory and Sobolev spaces\*, Convex optimization\*, Finite fields and their applications, Fourier analysis, Basic algebra, Complex analysis, Real analysis

## Extracurriculars

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- Intermediate course in Table Tennis under the National Sports Organization at IITB [2018-19]
- Best All-Rounder on graduation from Ryan International School Bangalore [2016]
- Deputy Education Minister in the Student Council at Ryan International School Bangalore [2014-15]
- Completed 19 credits in electronic keyboard from the Trinity College of Music London [2007-13]