Adway Girish | Email | Website | Google Scholar

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First-Year Ph.D. Student, School of Computer and Communication Sciences, EPFL

Research Interests

Information and coding theory and applied probability, particularly with communication systems

Education

EPFL, *Ph.D. in Computer and Communication Sciences* — *Lausanne, Switzerland*
Receiving EDIC fellowship for the first year; Semester project advisor: Prof. Emre Telatar — Sep. 2022 - Present

Indian Institute of Technology Bombay, *B.Tech. in Electrical Engineering* — *Mumbai, India*
With Honors in Electrical Engineering and Minor in Mathematics; CGPA: *9.60/10* — Jul. 2018 – May 2022

Publications

- S. Sharma, **A. G.**, D. Jeff, *et al.*, "Micro-doppler parameter estimation using variational mode decomposition with finite rate of innovation," in *2022 IEEE International Conference on Signal Processing and Communications (SPCOM)*, 2022
- S. Sharma, **A. G.**, N. P. Rakhashia, *et al.*, "Theoretical analysis of an inverse radon transform based multicomponent micro-doppler parameter estimation algorithm," in *2022 National Conference on Communications (NCC)*, 2022

Academic Achievements

- Received the Urvish Medh Memorial Prize, Institute Academic Prize, Undergaduate Research Award and AP grade (top 2%) in two courses during undergraduate at IITB *[2018-22]*
- Achieved All-India Ranks of 43 in JEE(Advanced) and 55 in JEE(Main) *[2018]*
- Selected for the KVPY fellowship from IISc by securing an All-India Rank of 35 *[2016]*
- Awarded the NTS scholarship by the National Council of Educational Research and Training (NCERT) *[2016]*

Selected Research Projects and Internships

Micro-Doppler Estimation in Radar Signal Processing — *Research Project*
Prof. Vikram Gadre, EE Dept., IITB — Apr. 2020 – Apr. 2022
- Derived an expression for the number of frequency terms to be eliminated, and conditions for successful estimation
- Extended a Finite Rate of Innovation framework to estimate mD parameters using Variational Mode Decomposition

Memoryless Broadcast Channels With Feedback — *R&D Project*
Prof. Sibi Raj Pillai, EE Dept., IITB — Jul. 2021 – Jan. 2022
- Obtained the maximum feedback erasure probability that can provide any improvement in the binary erasure BC
- Attempted to characterize the capacity region of the Gaussian BC with 1-bit quantized output

Spatially Coupled LDPC Codes Over Fading Channels — *B.Tech. Project*
Prof. Kumar Appaiah, EE Dept., IITB — Jul. 2021 – Nov. 2021
- Studied the best performance possible over fading channels using interleaving, subject to a latency-constraint
- Extended the application of low-complexity, reduced-latency windowed decoding to correlated fading channels

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
- Devised a 'peeling' algorithm to make the model implementable on an FPGA, hence ready for use in a real product

Mentoring and Responsibility

- Teaching Assistant for UG calculus and electromagnetism courses at IITB (4 times) *[2019-22]*
- Institute Student Mentor for first-year undergraduates *[2021-22]*
- Mentor for Summer of Science, IITB (coding theory, signal processing) *[2020, 2022]*
- Class Representative for first-year, B.Tech. in EE *[2018-19]*

Extracurriculars

- Completed an intermediate course in Table Tennis under the National Sports Organization at IIT Bombay *[2018-19]*
- Conferred the title of Best All-Rounder on graduation from Ryan International School, Bangalore *[2016]*
- Elected to the Student Council at Ryan International School as the Deputy Education Minister *[2014-15]*
- Completed 19 credits in electronic keyboard from the Trinity College of Music London *[2007-13]*