Adway Girish | ✉ Email | 🌐 Website | 🎓 Google Scholar | 📄 Full CV

Third-Year Ph.D. Candidate, School of Computer and Communication Sciences, EPFL ↗

Research Interests

Information and coding theory; applications of probability to **security**, **learning** and **communication**

Education

EPFL, *Ph.D. in Computer and Communication Sciences* — *Lausanne, Switzerland*
Advisor: Prof. Emre Telatar, CGPA: 5.90/6 — 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

Industry Experience

Texas Instruments (India), *Internship, System Engineer* — *Bangalore, India*
Evaluation and reduction of nonlinearities in baseband models of power amplifiers — May 2021–Jul. 2021

Selected Publications

see 🌐/publications or 🎓 for full list (*, † denote equal contribution)

Preprints

- **A.G.**, S. Shamai, and E. Telatar, *On entropy-constrained Gaussian channel capacity via the moment problem*, 2025 ↗

Refereed conference proceedings

- A. Nagle*, **A.G.***, M. Bondaschi, M. Gastpar, A. V. Makkuva†, and H. Kim†, "Fundamental limits of prompt compression: A rate-distortion framework for black-box language models," in *The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2024 ↗ [Also **oral** (top 4 of 58) at ICML TF2M 2024]
- A. V. Makkuva*, M. Bondaschi*, **A.G.**, A. Nagle, M. Jaggi, H. Kim, and M. Gastpar, "Attention with Markov: A curious case of single-layer transformers," in *The Thirteenth International Conference on Learning Representations (ICLR, to appear)*, 2025 ↗ [**Spotlight** (top 5%); also poster at ICML MI 2024]

Awards and Academic Achievements

- Grade 6/6 (95%+) in seven graduate-level courses at EPFL [2022–present]
- IITB Institute Academic Prize for being the second-best academic performer in the EE department [2020–21]
- IITB Undergraduate Research Award (URA01) for work in radar signal processing [2020]
- AP grades (top 2%) in Digital Communications, Data Analysis at IITB [2021, 2019]
- Urvish Medh Memorial Prize for being the highest-ranked student in the EE department at IITB [2018]
- All-India Ranks of 43 in JEE (Advanced) and 55 in JEE (Main) [2018]
- Kishore Vaigyanik Protsahan Yojana (KVPY) fellowship from IISc following an All-India Rank of 35 [2016]

Skills

- Programming languages and tools: Python (NumPy, SciPy, PyTorch), Jupyter, Matlab, C++, LaTeX, Git
- Languages: English, Malayalam, Hindi (fluent); French (B1)

Teaching, Mentoring and Service

- Reviewer for conferences and workshops: ISIT (2025, 2024), ICML NCW (2023) [2023–present]
- Teaching Assistant for digital communications and information theory courses at EPFL (5 timez) [2022–present]
- RAMP Mentor for EPFL PhD applicants, EPIC buddy for admitted PhD students at EPFL [2023–present]
- Summer of Science mentor at IITB for signal processing, coding theory, information theory, probability [2020–24]
- Teaching Assistant for undergraduate calculus and electromagnetism courses at IITB (4 times) [2019–22]
- Institute Student Mentor for first-year undergraduates at IITB [2021–22]
- Class Representative for the 2018–22 B.Tech. in EE batch at IITB [2018–19]