

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

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

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 *Advances in Neural Information Processing Systems (to appear)*, vol. 37, 2024 [📄](#) [Also **oral** (top 4 of 58) at ICML TF2M ’24]
- A. V. Makkuva*, M. Bondaschi*, C. Ekbote, **A. G.**, A. Nagle, H. Kim, and M. Gastpar, “Local to global: Learning dynamics and effect of initialization for transformers,” in *Advances in Neural Information Processing Systems (to appear)*, vol. 37, 2024 [📄](#) [Also poster at ICML TF2M ’24]

Awards and Academic Achievements

- Grade 6.0 (95%+) in five 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: ICML NCW ’23, ISIT ’24 [2023–present]
- Teaching Assistant for Principles of Digital Communications, Information Theory and Coding at EPFL [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]