Information Theory and Coding

Time and Location:
Mondays, 11h15-13h, BC 01 (lecture)
Tuesdays, 13h15-15h, ELA 2 (lecture)
Tuesdays, 15h15-17h, ELA 2 (exercise)

Instructor:
Emre Telatar (INR 117, emre.telatar@epfl.ch)
Office Hours: By appointment

Teaching Assistant:
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Administrative Assistant:
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Prerequisites:
Probability and Statistics (I and II) or Stochastic Processes for Communications

Webpage: https://ipg.epfl.ch > Teaching > 2023-24 > Information Theory and Coding


Course Mechanics:
Weekly exercises (ungraded)
One graded homework (date TBA, 10%)
Midterm exam (date TBA, 40%)
Final exam (date TBA, 50%)

Approximate Outline:
Properties of information measures (4-5 lectures)
Source coding (7-8 lectures)
Capacity and the channel coding theorem (5-6 lectures)
Coding techniques for reliable communication (4-5 lectures)
Multi-user channels (4-5 lectures)
Additional topics (1-2 lectures)

Additional References:
2. C. E. Shannon (with W. Weaver), The Mathematical Theory of Communication, U.
of Illinois Press, 1963. (see also the course webpage)
3. J. M. Wozencraft and I. M. Jacobs, Principles of Communication Engineering,