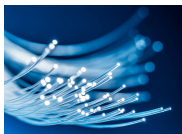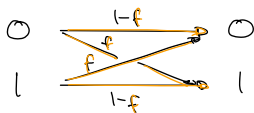# Information Theory (Summer 2023)

vs

- ▶ how to model *information sources* and *channels* mathematically?
- ▶ how to optimally *compress* information?
- ▶ how to design *error-correcting codes* for noisy channels?
- ▶ how to make *predictions* from noisy data?

Information theory answers these questions! Originating in Shannon's groundbreaking work, underpins widely used technologies (LTE, 5G, ZIP, ECC, . . .).

Highlights: Huffman, Lempel-Ziv, Reed-Solomon, arithmetic coding, . . .
Format: Lectures, theory and programming exercises, student presentations.