


LECTURE 25



TODAY

- CODING FOR EDITING ERRORS
(see slide deck)
- Recap of the Course

Course Summary

① Existence + Limits of Codes

- Greedy / Random

- Packing, List-Packing, Embedding into Euclidean space

② Constructions + Algorithms

- Algebraic - mostly better than random!

- Graph-Theoretic

- Information Theoretic

③ Advanced Topics

- Local Decoding

- Interactive Coding

- Edit Errors

④ Applications in Complexity

- Baby Pseudorandomness, - Baby Crypto.

What we didn't do

- Bounds : LP Bound *
- Codes : AG codes *
- Algorithms :
 - ① LDPC codes + decoding * !!
 - ② Linear-time machinery *
- Explicit graph constructions : Used many ...
- "Modern" Topics (only 20 years old) :
 - Network coding + coding for Network Coding
 - Quantum Error-Correction *
- Applications in CS : so many that I can't remember them.
 - Hashing, Secret-Sharing, Streaming = D.S.
 - PCPs ...
 - Expander, Extractor, PRG, ... connections.

Nevertheless

- Hope you learned a bit
- Hope it sunk in
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- Be safe, healthy.

- Hope we get to a better normal soon.

- If you're interested in more talk to me! (email → zoom → ...)

THANK YOU!! THANKS CHI-NING!!