CSE 525: Randomized Algorithms and Probabilistic Analysis

Welcome!!

Administrivia

- **Anna Karlin**
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  - Office hours: TBD
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  - Office hours: Thursday, 5:30-6:30pm

- **Course web page:**
  - http://www.cs.washington.edu/525

Background expected

- Introductory probability at the level of CSE 312:
  - Probability space, random variables, basic distributions, independence, conditional probability, expectation, …
- Algorithms at the level of CSE 421
  - 521 is formally a prerequisite, but we don't generally require it….. There will be a little bit of overlap.
- "Mathematical maturity"
  - Linear programming
  - Linear algebra

Workload

- 5-6 problems sets (submission on Gradescope)
  - 6 late days over the quarter, at most 2 on any one pset. None on the final pset.
- Project (paper and possible presentation) on a research paper relevant to the course and to you!
  - Can/should work in pairs.
  - Details coming

My goals for the course

- To teach you the fundamental techniques that are useful in the design of randomized algorithms and in the analysis of probabilistic processes.
- To show you how much fun, beautiful and clever the myriad of ideas in this space are.
- To convince you that no matter what area you end up working in, knowing more about probabilistic analysis will serve you well.
- To help you develop a toolkit that is crucial if you want to pursue any theoretical research