The A-B-C-D-E-Fs of Finding a Research Problem

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Act Early

- Start thinking a year before graduation
- Use adviser, peers as sounding board
- Helps with research statement, interviews
- Handy with those first NSF proposals
- Will get those first 1-2 Ph.D. students busy
Be Where the Action Is

- Go to your top conference(s)
  - Start doing this as a student
  - You don’t have to have a paper in it
  - See what problems people are attacking
  - Identify and meet potential collaborators
**Change Topic, Carefully**

- Avoid problems your adviser works on
  - Not just your Ph.D. thesis
- Change topic, but don’t change how you execute
  - Avoid reinventing yourself
  - Avoid heavy infrastructure development
Descend from Ivory Tower

- Key: Allow external influence on your ideas
- Visit industry; listen more, talk less
- Send junior students to internships
  - Make sure they will work on stuff relevant to you
- Attend (organize) weekly seminars with other Faculty
  - Early/friendly/honest feedback, cross-pollination
- Did I mention go to your top conferences?
**Escape from Distractions**

- Finding+nurturing research topic requires **time**
  - Startup and external funds mostly buy time
- Grab 1-2 strong Ph.D. students ASAP
  - Spend a **lot** of time with them, teach them to think **with** you and work **for** you
- Be a good instructor, not an excellent instructor
- The only department committee that matters to **you** in your first 3 years is graduate admissions
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