

Setting and Managing Expectations

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Outline

- A timeline of expectations
- Expectations from advisor/advisee relationship
- Expectations from research
- NOT A LECTURE - PLEASE ASK QUESTIONS!

Why this session

- Research $\neq$ coursework
- Graduate school $\neq$ undergrad
- Often PhD students have mismatched expectations
 - Expect more progress than reasonable
 - Have different expectations of support
- Grad school can be frustrating with wrong expectations

A timeline of expectations

Checkpoints

- Start of PhD/ MS
- Figure out advisors

What you are expected to do

- Talk to faculty contact / mentors
- Do trial projects
- Reach out to other potential advisors if not a good match
- Repeat till you find advisor
- Research : learn basics of field
- Research : work with guidance
- Research : design and execute your own project

A timeline of expectations - continued

Checkpoints

- A-exam/M-exam
- B-exam

What you are expected to do

- Research: design and execute your own project
- Research: figure out thesis direction
- Career: Network at conferences
- Career: figure out future plans
- Career: get future employment

Expectations re:advising

Expectations when choosing advisors

- You should be working with potential advisors now
- Typically your faculty contact(s) is the first person to reach out to
- Make sure both potential advisor and you are on board
 - CS 7999 is a good bookkeeping gadget
- If trial project, decide on goals/timelines
 - Might vary between faculty

What your advisor expects from you

- Generally advisor-advisee relationships vary, but
- You are spending work hours primarily on your and advisor's project
- YOU own the project
 - Take advisor's guidance but go beyond
 - Take initiative and ask for help if needed
 - But listen to and learn from feedback
- You will grow over time
 - Your advisor will generally expect greater independence the more senior you are

What you should expect from your advisor

- Your advisor is a Cornell faculty member. This is *really hard* to get
- Respect and learn from
 - their experience
 - their instincts
 - Their taste

What you should expect from advisors

- Generally advisor-advisee relationships vary, but
- Advisor has regular-ish meetings with you
 - Useful to talk about frequency that suits you
- Advisor is your supporter and champion
 - Your success is their success!
- Advisor gives guidance not just in terms of research but in terms of career as well.
- Generally useful to discuss expectations regularly
 - Ask for feedback/meeting when you file your SPR

What you should expect from advisors

- Communication is key!
 - Communicate early about blockers/other issues holding you back
 - Ask for help when you need it
 - Ask questions about what you don't understand
- Most often things go wrong because of communication failure

Expectations re:research

Research: What to expect

- Research is uncertain
- Expect:
 - Blind alleys, dead ends, frustration
 - Being lost
 - Being stuck
 - Being scooped

Research: How to manage

- Research is uncertain
- How to manage:
 - Don't measure progress in publications, or benchmarks, or theorems
 - Progress is not always publishable
 - Measure progress in terms of evolution of understanding
 - Look back periodically to remember how far your thinking has come
 - Avoid the fallacy of “sunk costs”: be prepared to abandon directions if it is clear they are not fruitful

Research: What to expect

- Research is not always creative
- Expect:
 - Work collecting and manually processing data
 - Work building frameworks, baselines, systems, experimental benchmarks
 - Working through tangentially related maths
 - ...all for at most a paragraph or a footnote in a paper somewhere

Research: How to manage

- **“No work is insignificant.** All labor that uplifts humanity has dignity and importance and should be undertaken with painstaking excellence.” –Dr. Martin Luther King Jr.
- Research projects are like buildings: the foundation is ugly, requires a lot of work and is usually hidden
- Work might feel like gruntwork but is crucial: builds intuitions, reveals hidden assumptions, plants seeds for future work
- Is the primary reason why later papers come faster
- Be wary of outsourcing too much to AI

Research: What to expect

- Research is a *human* endeavor
- Expect:
 - Sadness/anger when your work is rejected
 - Effects on your research from your mental / physical health and other circumstances
 - Pushback and harsh reviews that are not necessarily great critiques
 - Popularity and impact only loosely correlated with contribution
 - The same biases, prejudices etc. that you might see in society at large
 - Trends in community governed by funding sources, industrial focus etc.

Research: How to manage

- Realize: you are not a brain on a stick
- Okay to feel overwhelmed. Okay if health/emotions/circumstances impede progress
 - Maintain friendships, family connections
 - Reach out for support if needed
 - Take a step back / take a break: you work best when you are fully present
 - Communicate w/ advisor(s) to the extent possible
- Accept: dealing with academic communities not much different from dealing with society-at-large
- Develop thick skin for reviews:
 - Separate out valid critique from needless anger/hostility

Questions?