CSC290 Communication Skills for Computer Scientists

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Today

- Writing and Giving Feedback
- Concluding Advice
- Course Evaluations

Next week; Resume & Cover Letter

- Hosted by career services.
- I won't be here next week. (No office hours next week)
- Materials discussed in week 12 **will be** on the exam.

Final Exam

Content:

- 50 multiple choice questions (50% of exam)
- 5 other short/long answer questions (50% of exam)

Coverage:

- All 12 weeks of lectures
- All required reading
- Critical review (but not the articles)
- Coding in Python

You can find old CSC290 exams in the Old Exams Repository. Keep in mind that the content covered each term may be different.

Upcoming Deadlines

- Critical Review 2: Due December 2, 9pm
  - **RGASC drop-in hours Friday, Nov 30th, 10am-1pm**
- Team Evaluations: Due December 4, 9pm
  - **No late tokens accepted**: if you do not complete the team evaluations, you forfeit the entire 2%.

Emails

- If you *know* the person to whom you are writng, your subject should not be "UTM Student Seeking Advice"
- When you are making *request*, don't sound like you're doing a favour:
  - "If you have job openings I will consider them."
  - "If you have job openings, please send them my way."
- Give people time to respond: "Meet Tomorrow?"
- Be specific about what you are asking for:
  - Words like "mentorship" are vague

Feedback

Purpose of feedback

- Help improve a situation
- Help each other improve

You should not be giving feedback for other reasons.

Feedback in a Work Environment

Feedback is given both formally and informally:

- **Informally**, for example after a meeting, or having a quick chat
- **Formally**, for example in an annual or quarterly review

Some companies perform "360" reviews, so feedback comes from every person that you interacts with.

Keep the Audience in Mind

- We all want to do a good job, and be liked.
- It can be hard to hear criticism.
- Provide feedback which serves the needs of the recipient rather than your own.

Q: How might the audience perceive informal and formal feedback differently?

Feedback should be. . .

- **Private**:
  - Praise in public, criticise in private?
- **Actionable**:
  - What can the feedback recipient do differently?

Sandwiching method

The “compliment sandwich” is a technique people sometimes use:

- Bread: Start with something positive
- Meat: Provide the negative feedback
- Bread: End with something positive

Example:

Your conference website looks marvelous and well-designed. However, you made an error when writing my name on the keynote page, and hope you can fix it. Anyways, I look forward to your event, which will surely be very inspiring.

Example:

Your presentation was great. You made good eye contact and were well prepared. You were a little hard to hear at the back of the room, but with some practice you can overcome this. Keep up the good work!

Problem

- If you use “the compliment sandwich” too often, your praises will seem disingenuous.
- It is easy to here that there is a transition word (“but”, “however”, “unfortunately”) coming.
- It hasn’t been shown to work well.

The “spirit” of the “sandwich”

Before providing feedback, make sure that our recipient is in a receptive mood.

After providing feedback, contextualize the feedback and focus on the positive (e.g. what happens if we improve)

Feedback "Wrap"

One possible alternative is the feedback "wrap":

- **Describe Your Context** "There are a few things about the event website that I would like to discuss."
- **List Your Observations** "I noticed that there is a spelling error in the keynote page, including one person's name."
- **Explain The Value**: "It is important that we come across as professional, and respectful of our speakers."
- **Offer Some Suggestions**: "I hope we can fix the mistake. I'm happy to proofread any new content before going on the webpage."

“I” Statements

Give feedback from **your perspective**.

- “You were insensitive yesterday.”
  - vs
- “I was angry and hurt when you criticized my report in front of my boss.”

“I” Statements are great because they take out the **judgement**.

Alternative: describe what occured

- “The customer was left for 20 minutes before their request was heard.”
  - vs
- “It is terrible that you left a customer unattended.”

Alternative: describe actions rather than qualities

- “you talked a lot in the meeting”
  - vs
- “you are a chatterbox”

Formal Feedback

"BET" and "BEST" models:

- Positive Feedback:
  - **B**ehaviour, **E**ffect, **T**hank you (BET)
- Constructive Feedback:
  - **B**ehaviour, **E**ffect, **Al**ternative, **R**esult (BEAR)

BET Model

- **Behaviour**: Describe a *specific* behaviour, action, or habit that benefited you.
- **Effect**: Describe the effect it had on you.
- **Thank you**: Thank the person for this behaviour.

BET Example

Sample TA evaluations that uses the "BET" model:

> *John frequently checked in with my group to see that we were on track, and noticed when we were struck. This kept us from falling behind. I was grateful that John was there to explain the tricky steps.*

BEAR Model

- **Behaviour**: Describe a *specific* behaviour, action, or habit that could be changed.
- **Effect**: Describe the effect it had on you.
- **Alternative**: Recommend an alternative behaviour to adopt in place of the current one.
- **Result**: Describe the positive result that may occur if this change is made, or suggest the consequences that may occur if this issue isn't addressed.

BEAR Example

Sample TA evaluations that uses "BEAR" model:

> *During the tutorials, I had a difficulty hearing John. At times this made it difficult for me to know what was going on. If there was a microphone, I could hear him better, or perhaps he could speak louder.*

Example

I noticed that you arrived 10-15 minutes after the agreed upon meeting time, so our team meeting started late. If everyone was on time, we could start and end the meetings on time.

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"I" Statements:

I feel worried when you arrive late for our meeting, because I wanted our meeting to end on time for my tutorial afterwards.

Example

You were really proactive in proofreading everyone's slides. You caught several mistakes before the deadline, and probably improved our grades. I really appreciated your thoroughness.

Exercise - Group Feedback Example

- Provide feedback to someone who does not complete their work on time for everyone else to check it.
- Provide feedback to someone who submitted slides using a different colour scheme than everyone else.
- Provide feedback to someone whose slides were poorly researched.
- Provide feedback to someone who took the effort to book study rooms for presentation practice.

Preparing for the future

How do you prepare for

- Academia (Graduate School)
- Industry (Job)
- Startup

Graduate School

There are good and bad reasons to go to graduate school.

Good reasons:

- To learn how to be a researcher.
- To see if research is right for you.
- To gain deep understanding of a subject.
- To get a job that requires an advanced degree.

Bad reasons:

- Because you don't know what you want to do with your life.

Professional vs Research Masters

Professional Masters:

- Take more courses
- Possibly an internship or research project

Research Masters:

- Take some courses
- Mostly conduct your own (publishable) research
- Write a thesis

Goals behind Professional vs Research Masters

Professional Masters:

- To get a job that requires an advanced degree.

Research Masters:

- To see whether you want to continue to a PhD.
- To increase the total sum of human knowledge.

Graduate School

To successfully apply to graduate school, you will need:

- Good grades
- Letters of reference from three referees

Reference Letters for Graduate School

If you might want to do research, think about your letters early.

In order for a prof to be able to write a good letter for you, they should know who you are!

A letter that simply says that you did well in their course is not helpful for the admissions committee.

What can you do?

- Get to know the profs whose courses are aligned with your interests.
- Have conversations about the research area in office hours.
- Participate in course message boards.
- Participate in extra-curricular activities.

Your profs want to write a good letter for you, so get to know them early.

Summary: Grad School

If you might want to do research:

- Think about what areas you find interesting.
- Approach professors teaching courses in possible areas.
- Participate in those courses by attending office hours, course message boards, so that those profs know who you are.
- Show interest, initiative, and good communication skills.

Your request for a letter should not be the very first time you speak to a prof.

Industry

Yes, the old adage "It's not what you know, it's who you know" is true:

- Keep in touch with your classmates.
- Get to know students entering the work force a couple years before you.

People want to know interesting people

The flip side is that people are interested in knowing interesting people.

- People who do interesting things.
- People who write about the interesting things they do.

This is why blogs can be powerful tools!

- Take time to do interesting (CS) things, and write about them!
- Share your work on HackerNews, Reddit, etc.

Getting Hired

- Reaching out to people (e.g. with a cold email) is the modern day equivalent of "knock on doors".
- LinkedIn profile can be helpful.
- Don't burn bridges, not even with classmates!

Try to understand the hiring process at companies you are applying to.

If you don't get into POST

- Your degree (or lack thereof) does *not* define you.
- My own degree was in Pure Math.
- I worked with team leads who did *not* go to university at all!

Summary: Industry

- Do interesting things, communicate them, and get to know people.
- Let your intentions be known in your community.
- In CS, your skills and abilities matters more than a degree.

Startup

Startups are companies designed to *scale quickly*.

- Not all interesting ideas are meant to be startups.
- But there is so much resource around startups, that things that shouldn't be called "startups" ends up being called that.

Are you interested in a *product idea*, or the idea of growing a company quickly? (You need both.)

Think long term

- Startups can be a 5-10+ year commitment.
- It will be an emotional roller coaster.
- You'll need to wear many hats, even the ones you don't like.
- Survivorship bias: we only hear about the successful startups, not the failures.

Skills

- Learn to communicate.
- Learn to identify and talk to potential.
- Learn to be okay with rejections.
- Go beyond coding: coding is only a small percent of what makes tech startups successful.

Resources

- Creative Destruction Lab
- NextAI
- Hatchery
- More at http://entrepreneurs.utoronto.ca/accelerators/

Summary: Startup

- It is a difficult road.
- Build soft skills and other non-technical skills.
- Use the resources available.

What if you don't know what you want to do?

That's okay! You don't have a lot of information yet. Your main goal should be **getting that information to help you decide**:

- Explore! Explore different options.
- Be okay with spending time and effort on things that are only "interesting".
- Be passionate about what you are working on, even if you're not 100% sure.

I believe that passion comes before success, *not* after, and that discipline is more important than motivation.

What I don't recommend

Stay in school an extra year to "find oneself".

- If four years didn't give you the information you need, why would another year be different?

Finding oneself

- Putting yourself in different situations to see how you would respond.
- Challenging yourself.

In all cases. . .

Soft skills are extremely important, and you *will* write a lot:

- Academia: write research papers, present papers, communicate with collaborators, . . .
- Industry: write project proposals, commit messages, bug reports, documentation, feedback, . . .
- Startup: write grant proposals, emails, contracts, user guides, documentation, . . .

So in either case:

- Practice writing: blog?
- Network with people: get to know your classmates, profs, members of the community
- Make cool things – that's probably why you interested in Computer Science.

Course Evaluations

I wish you success, whatever you choose to do.