CSC290 Communication Skills for Computer Scientists

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Announcement

- Presentations continue this week!
  - Massive improvements in slides and presentation cohesiveness
  - We are taking attendance at the *beginning* of each tutorial, so please don't be late!
- Final Repository is due Dec 4th 9pm

Agenda

First hour:

- ► Resume

Second hour:

- ► Cover letter (10 min)
- ► How to get to grad school / industry / startup (30 min)
- ► Course Evaluations (10 min)

Next week:

- ► Final lecture!
- ► Interview workshop lead by the Career Center

Resume: the elephant in the room

This resume discussion is about how to best present who you are to employer.

Presentation is important, but it also isn't magic. You need to be honest about your experiences.

An important way to build a better resume is to *become more qualified* for the roles you want by participating in opportunities for growth.

Resume

SMCR Model of Communication

Put yourself in the mindset of readers of your resume.

- ▶ How long will they spend looking at your resume?
- ▶ In what order will they be looking at your resume content?
- ▶ What are they looking for in your resume?

Resume Structure

A hiring manager will take 10-20 seconds at most to decide whether your resume is worth reading in detail.

Your resume should be well-structured for a:

- 0.1 second read (layout and amount of text per section)
- 10-20 second read (summary and headings)
- 2-3 minute read (spelling, grammar, attention to detail)

A Tailored Resume

I recommend:

- ▶ Having a general resume structure
- ▶ Tailor the resume for the 2-3 positions that you really care about

Why? Because the information that hiring managers look for depends on the role.

What would an employer look for in applications to the follow job (next slide)?

Job Posting: Technical and Support Co-op

. . . you'll broaden your technological expertise by gaining valuable exposure to the different IT areas including programming, infrastructure, architecture, and security. You'll assist with providing desk-side support to our employees; conducting architectural assessments; building roadmaps and product lifecycles; or programming. . .

We are looking for individuals who are:

- ▶ Creative and courageous, with a 'think outside of the box' mindset
- ▶ Action oriented, and able to balance and prioritize activities
- ▶ Outcome focused, critical thinkers who are committed to continuous improvement
- ▶ Collaborative team players with strong communication skills, who build relationships easily

Resume Content Builder

For each skill, consider:

- What skill is the employer looking for?
- How is it used in the position?
- Where did I develop this skill/result?
- *Outcome* based statement

(Written by UTM Career Center)

Resume Content Builder Example.

- **Skill:** Teamwork skills
- **How it is used:** Work in a team to brainstorm new ideas
- **How I developed this skill:** Team member of P.A.U.S.E, worked with a team of 8 to brainstorm and run new events
- **Outcome based statement:** Collaborate with 8 team members to develop and plan 5 events, 3 brand new events

(Written by UTM Career Center)

Why *outcome* based statements?

- Claims made in your resume about your skills are *evidence based*
- So that you mention the *impact* of your work
- So that you are being *specific* about how you developed your skills

Resume Length

- One page is ideal, but not absolutely necessary
- **But,** put the most important material in the first page
- In general, important items should be further up
- Reverse chronological per category

Resume Design and Formatting

- Compact is good, but use white space effectively
- Good design can help you stand out from the crowd
- However, over-complicated design can hurt you if the company uses an automated resume filtering system

Activity

- Each table will review one out of the six resumes.
- Consider your:
    - 0.1 second red: what can you learn from the overall *structure* of the resume?
    - 10-20 second read: what can you learn from the *headings* in the resume?
    - 2-3 minute read: can you find the information you are looking for? are the descriptions *outcome based*?

We'll take it up together...

Cover Letter

Why cover letter?

Your cover letter should **not** simply repeat your resume!

Cover letters add a "humanizing" touch –

- what do you want to highlight for the company that does not fit in your resume?
- why are you excited about *this particular position*?
- what kind of a person are you?

Keep the audience in mind

Why are you excited about *this particular position*?

- ▶ focus on what you can do for the company
- ▶ **not** what the company will do for you

Cover letter example

Dear hiring manager

I have been fond of your startup ever since I visited your company office on a class trip in grade 12. I instantly knew this was the work environment and culture I can enjoy and now that I am a software developer in university I can give back to the company that has showed me the path I continue to walk.

. . .

What is wrong with this sentence?

I am looking for a position that will help me develop and grow as an individual

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Problem:

▶ Written from the point of view of what the company can do for you
▶ The hiring manager cares about what you can do for the company

Which is better?

1. I'm excited about contributing to a system used by millions of people.
2. I heard great things about your work environment and free beer Fridays.

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.

Asking for a reference letter

- All your profs had to ask for **many** letters to get to where they are!
- In your email, ask whether they would be able to write a **strong** letter of recommendation
- Remind them of what you did and what you want to be included in your letter:
  - e.g. that you participated in certain activities, grade you got in their course

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 "knocking 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 didn'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?

(Note: there are other valid reasons to stay an extra year)

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