

# CSC290 Communication Skills for Computer Scientists

Lisa Zhang

Lecture 1; September 9, 2019

Welcome to CSC290!

# Introduction

- ▶ **Instructor:** Lisa Zhang
  - ▶ What you can call me (in order of my preference):
  - ▶ “Lisa”, “Prof Zhang”, “Prof Lisa”, “Prof”
- ▶ **Email:** [lczhang@cs.toronto.edu](mailto:lczhang@cs.toronto.edu)
  - ▶ Please prefix email subject with ‘CSC290’
- ▶ **Office hours:** Wednesday and Friday, 11:00-12:00
- ▶ **Office:** DH3078

## About your instructor

- ▶ studied pure math at UWaterloo (~2012)
- ▶ founded a data visualization company (~2014)
- ▶ senior data scientist at an advertising technology company (~2016)
- ▶ MSc in machine learning at UofT (~2018)

Ask me about anything outside of class, or empty office hours!

## About your instructor

- ▶ studied pure math at UWaterloo (~2012)
- ▶ founded a data visualization company (~2014)
- ▶ senior data scientist at an advertising technology company (~2016)
- ▶ MSc in machine learning at UofT (~2018)

Ask me about anything outside of class, or empty office hours!

I am not an English teacher. This course is taught from a computer science perspective.

## About you

- ▶ What is your name?
- ▶ What other courses are you taking right now?

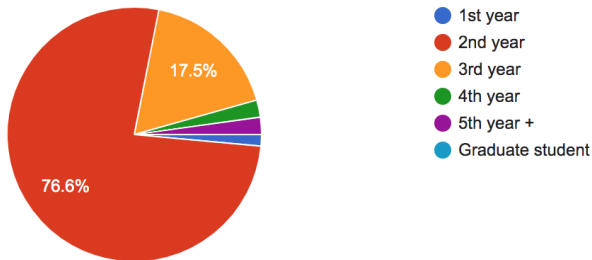
## About you

- ▶ What is your name?
- ▶ What other courses are you taking right now?
- ▶ Write your names on the slide here, on your projector:

# About you: survey

## What year of study are you in?

137 responses

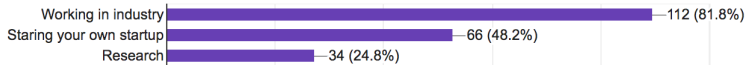




# You're largely interested in industry

## What career paths are you interested in?

137 responses



You wanted me to know...

- ▶ I am an international student... English is not my first language...

## You wanted me to know...

- ▶ I am an international student... English is not my first language...
- ▶ I love CS, but not writing that much... my writing skills are not my strongest trait...

## You wanted me to know...

- ▶ I am an international student... English is not my first language...
- ▶ I love CS, but not writing that much... my writing skills are not my strongest trait...
- ▶ I am a currently running a business and I'm looking to hire interns...

## You wanted me to know...

- ▶ I am an international student... English is not my first language...
- ▶ I love CS, but not writing that much... my writing skills are not my strongest trait...
- ▶ I am currently running a business and I'm looking to hire interns...
- ▶ I worked as a software developer for a year...

## You wanted me to know...

- ▶ I am an international student... English is not my first language...
- ▶ I love CS, but not writing that much... my writing skills are not my strongest trait...
- ▶ I am currently running a business and I'm looking to hire interns...
- ▶ I worked as a software developer for a year...
- ▶ I have a learning disability...

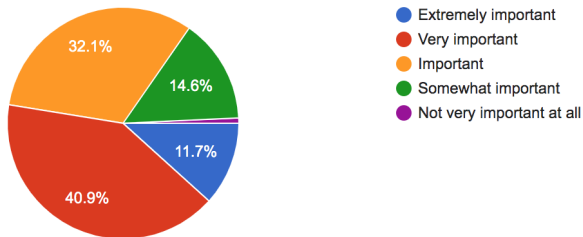
## You wanted me to know...

- ▶ I am an international student... English is not my first language...
- ▶ I love CS, but not writing that much... my writing skills are not my strongest trait...
- ▶ I am a currently running a business and I'm looking to hire interns...
- ▶ I worked as a software developer for a year...
- ▶ I have a learning disability...
- ▶ Almonds are a member of the peach family.

# You agree that writing is important

How important do you think writing is for someone studying Computer Science?

137 responses

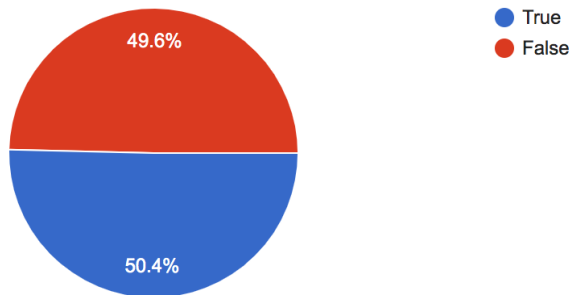




But...

I would not be taking CSC290 if it was not required.

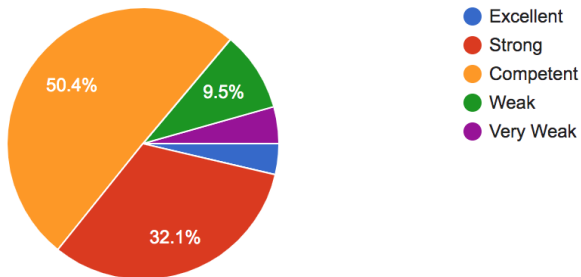
137 responses



Maybe because ...

## How would you rate your academic writing skills?

137 responses



## Why is CSC290 mandatory?

*College graduates are highly confident of their abilities in both traditional “hard” and “soft” skill areas. Employers, on the other hand, are increasingly frustrated at what they see as a growing problem with graduates’ soft skills, or rather, lack thereof.*

*– Carol et al. 2016. Mixed Signals: Do College Graduates Have the Soft Skills That Employers Want?*

# Survey Results from Carol et al. 2016

**TABLE I: TOP 10 SOFT SKILLS EMPLOYERS SEEK IN COLLEGE GRADUATES**

		% Employers feel college grads well prepared	% College grads feel well prepared	% Students surveyed feel well prepared
Skill	Employer %			
Hart Research Associates:				
Verbal communication	85	28	62	72.4
Teamwork	83	37	64	83.6
Written communication	82	27	65	84.1
Ethical judgment / decision making	81	30	62	65.4
Critical/analytical thinking	81	26	66	86.9
Applying knowledge & skills to real world	80	23	59	--
Problem-solving	70	24	59	87.9
Locating, organizing, and evaluating info	68	29	64	--
Innovation / creativity	65	25	57	--
Staying current on changing technologies	60	37	46	--

## Survey Results on Written Communication Skills

- ▶ **84% of students** feel that they have adequate written communication skills

# Survey Results on Written Communication Skills

- ▶ **84% of students** feel that they have adequate written communication skills
- ▶ **27% of employers** feel that graduates have adequate written communication skills

# Survey Results on Written Communication Skills

- ▶ **84% of students** feel that they have adequate written communication skills
- ▶ **27% of employers** feel that graduates have adequate written communication skills
- ▶ **65% of graduates** feel the they have adequate written communication skills

# Survey Results on Written Communication Skills

- ▶ **84% of students** feel that they have adequate written communication skills
- ▶ **27% of employers** feel that graduates have adequate written communication skills
- ▶ **65% of graduates** feel the they have adequate written communication skills

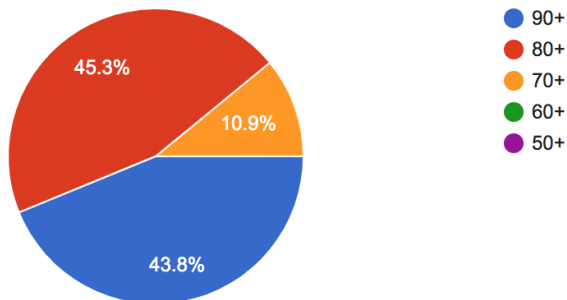
Take-away: Employers might rate your communication skills differently than you would rate your own.



# Everyone wants to do well

What grade are you aiming for in this course?

137 responses



I'm here to help you! Your TAs are here to help you!

What does a software developer write?

# Course Goals

To develop skills in:

- ▶ Written communication
- ▶ Oral communication
- ▶ Interpersonal communication

In order to develop those skills, we will be:

- ▶ writing every week
- ▶ presenting during tutorials
- ▶ working in groups

# Course Components

- ▶ **Lectures:** You are here!
  - ▶ Please attend section you are registered in
- ▶ **Tutorials:** Lead by a TA
  - ▶ Please attend section you are registered in
- ▶ **Readings:**
  - ▶ No textbooks
  - ▶ Readings are posted weekly.
- ▶ Any material covered in lectures / tutorials / readings is fair game for the assignments, midterm, and exam.

## Tutorial Section

- ▶ Make sure you are registered in a tutorial section in ACORN - by 11:59pm tonight.
- ▶ You must be able to attend the tutorial in which you are registered.
- ▶ You will be grouped with other students in your tutorial.
- ▶ **Tutorials start this week**

# Evaluations

There is something due every week, so that you write regularly.

- ▶ Weekly writing (12%)
- ▶ Critical Review (10%)
- ▶ Critical Review Edits (2%)
- ▶ Projects (31%)
- ▶ Midterm (15%)
- ▶ Exam (30%)

# Course Website Scavenger Hunt

- ▶ Worksheet
- ▶ Work with your table!

## Are these an academic offenses?

- ▶ You submit a blog post that your friend wrote a year ago.
- ▶ You submit a blog post that you wrote a year ago.
- ▶ You take one paragraph from a source that you cite in your critical review article.
- ▶ You ask your friend to proofread your critical review article, and she makes several revisions for you.
- ▶ You ask your friend to proofread your critical review article, and she points out issues that you could improve.
- ▶ You take a sentence from a paper that you are citing, and include it in your essay.



# Course Expectations

- ▶ Use and check your UofT email address
- ▶ Check the course website and announcements
- ▶ Provide feedback to the instructor or TAs if/when necessary
- ▶ Work cooperatively with your group. Group work is *not* optional in this course as part of your learning outcome is to learn to work as part of a team.

## The dreaded group work



- ▶ Group work can be frustrating, unpredictable, difficult
- ▶ But also important!

# Frustration

- ▶ The emotion of frustration is completely normal.
- ▶ As a professional, you will feel frustrated on a daily basis, even if you love your job.
- ▶ Reacting and communicating well while frustrated is an important soft skill.

## Challenge:

- ▶ Be introspective when frustrated.
- ▶ Treat frustration as a learning opportunity.
- ▶ Be the person that others find easy to work with.

# Resources

The Robert Gillespie Academic Skills Centre (RGASC)

<http://www.utm.utoronto.ca/asc/>

- ▶ 3rd floor of the Library
- ▶ Make an appointment or visit a drop-in
- ▶ 30 minute sessions tailored to you
- ▶ Help with
  - ▶ Time management
  - ▶ Study habits
  - ▶ Writing (creating a thesis, arguing, editing, etc)
  - ▶ English language learning

## Resources - Campus Happenings

Information & Instructional Technology Services (I&ITS) – aka.  
Service Desk @ CCT Atrium <http://www.utm.utoronto.ca/iits/>

AccessAbility Resource Centre (AARC) @ DV 2037  
<http://www.utm.utoronto.ca/accessability/>

Career Centre @ DV 3094 <http://www.utm.utoronto.ca/careers/>

Questions?

# Communication Theory

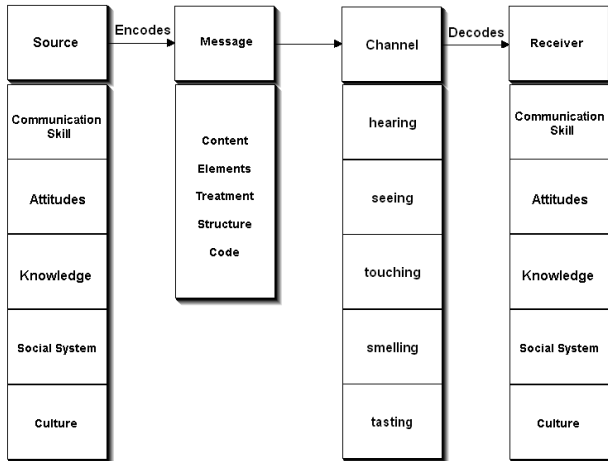


Q: Agree or Disagree?

“I am only responsible for what I say not for what you understand”

# The SMCR Model of Communication

## Berlo's Model of Communication



A Source encodes a message for a channel to a receiver who decodes the message:  
S-M-C-R Model.

# The Process of Communication

- ▶ The **source** has an intention that they want to communicate
- ▶ The source *encodes* the intention into a **message**
- ▶ The message is transmitted through a **channel**
- ▶ The **receiver** *decodes* the message received through the channel

Successful communication is achieved if the receiver decodes the intended message

# Successful communication

*All* of these components affects whether communication is succesful!

- ▶ **Sender:** Attitude, background, familiarity with the subject. . .
- ▶ **Message:** Content, structure, whether the message highlights important information..
- ▶ **Channel:** The medium used, e.g. presentation, blog post, image, text. . .
- ▶ **Receiver:** Attitude, background, familiarity with the subject. . .

# Factors in Successful Communication

The SMCR model of communication highlights that:

- ▶ **Structure** is a part of communication
- ▶ The **medium** affects how a message is perceived
- ▶ We should **keep the audience in mind**

Let's talk about each of these ideas.

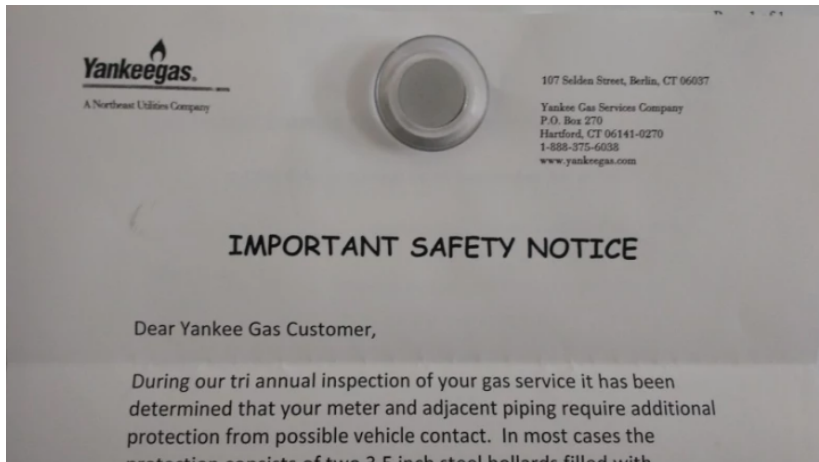
# Structure is a part of communication

- ▶ An essay has an introduction, a body, and a conclusion.
  - ▶ Readers expect the first paragraph of an essay to explain what the blog post is about
- ▶ The first sentence in a paragraph identifies its purpose.
  - ▶ Readers often skim an article by looking at the beginning of each paragraph, and decide whether the paragraph is worth reading.
- ▶ An email has a subject line.
  - ▶ Recipients decide whether or not to open an email based on the subject line.

# Structure is Part of Communication

- ▶ Structures evolved as a means of effectively achieving a particular goal.
- ▶ Structures simplify the creation of a message by outlining the basic set of questions to be answered.
- ▶ Known structures are familiar to people making it easier to decipher the message within.

Q: How is the medium affecting this message?



**Yankeegas.**  
A Northeast Utilities Company

107 Selden Street, Berlin, CT 06037

Yankee Gas Services Company  
P.O. Box 270  
Hartford, CT 06141-0270  
1-888-375-6038  
[www.yankeegas.com](http://www.yankeegas.com)

## IMPORTANT SAFETY NOTICE

Dear Yankee Gas Customer,

During our tri annual inspection of your gas service it has been determined that your meter and adjacent piping require additional protection from possible vehicle contact. In most cases the protection consists of two 3.5 inch steel bollards filled with



# How is Comic Sans perceived?



## Keeping the audience in mind

- ▶ What does the audience's goal?
- ▶ What your readers want to do *after* reading your message?
- ▶ What do they already know?
- ▶ What jargons and words would they not be familiar with?

## Worksheet

# Parts of Communication for Assignments

When writing your blog posts, assignments, etc consider . . .

- ▶ What is your goal/purpose?
- ▶ What is your message?
- ▶ What is the medium?
- ▶ Who is your audience?

## Example Blog Post

<https://brandonjoubran4.wixsite.com/blog-spot/home/hello-world>

<https://medium.com/cra1gblog/introduction-b42d2bc8ab6f>

- ▶ Informative title, good structure, well written
- ▶ Easy to read: font / colour
- ▶ Easy to skim: paragraphs / topic sentences
- ▶ There is something interesting / memorable about the author

# Blog Post Submission

Blog post #1 due Sunday 8:59pm

- ▶ Submit a link to your blog post on MarkUs (should be operational next few days)
- ▶ Create a file called `link.txt`, write the URL of the *blog post* (not your entire blog) in the file
- ▶ Submit `link.txt` to MarkUs.
- ▶ Make sure that you are submitting the *public URL* of the blog post!

## Common issues

- ▶ Grammar
- ▶ Colour contrast: text too difficult to read
- ▶ Font size: too small
- ▶ Text width: too long
- ▶ Justification: text should be left justified, not centered
- ▶ Length & structure:
  - ▶ paragraphs
  - ▶ don't just answer the prompt questions one by one!

Default style is okay; if you want to change the style, do so mindfully.

# Summary

- ▶ What is the SMCR model of communication?
- ▶ Why is it important to tailor your communication to your audience?
- ▶ How can the medium affect the message?
- ▶ How is structure a part of communication?
- ▶ What are aspects of your blog (medium) that you should be mindful of?