

CMPT 880/890

Writing labs

Outline

- Intro to the writing part of 880
- Communication in research
- Overview of topics
- Today:
 - Grammar quiz
 - Research writing as template
 - The “problem / motivation / solution / evaluation” template
 - The “claim / reason / evidence” template
 - Identifying problems

Writing assignments in 880

- Summaries of Wednesday readings
 - Writing practice
 - Summarization practice
 - Help you remember to do the readings!
- Other small writing assignments
 - Writing for different audiences
 - Descriptive paragraphs
 - Recognizing problems and editing
 - Argumentation exercises
- Two-page paper

Communication in research

- Critical to success in research
- What is it that you're trying to communicate?
 - That you have something of value to offer your research community
 - “What's the contribution?”
- Communication is more than just written English
 - Formal languages for argumentation (e.g., proofs)
 - Giving presentations, creating posters
 - Informal conversations (e.g., the ‘elevator pitch’)

Communication in research

- Good writing is (much) more than just grammar
- The *argument* that you're making is more important
 - Clarity ("What's the contribution?")
- Visual elements can be vital
 - Charts, tables, animations, videos

Types of research writing

Overview of topics

- The process of writing and becoming a good writer
- Grammar and the mechanics of writing
 - Sentence-level, paragraph-level, section-level
- Argumentation and the structure of an argument
- The parts and structure of papers and theses
 - What sections, why are they there, how do they work
- Templates for research writing and arguments
- How does a research paper happen?

Overview of topics

- Giving presentations
- Editing, revision cycles, and peer editing
- Presenting information visually
- Writing for different audiences
- The review process
 - what happens to your paper after you submit it
- Good writing habits
- Writing and communication resources

Grammar quiz

Templates for research writing

- Many kinds of research papers and theses have very similar structures and stories
- Templates: a fill-in-the-blanks approach
- A good way to get started with technical writing
 - But also useful throughout your career!
- Two templates:
 - “problem / motivation / solution / evaluation”
 - “claim / reason / evidence”

Problem/Motivation/Solution/Evaluation

- “What’s the contribution”?
- The Problem:
- In many areas of computer science, our research is about *solving problems*
 - Problems of the real world
 - E.g., “it is too time to learn a foreign language”
 - Problems defined by the research community
 - E.g., “there is no known constant-time algorithm for XYZ”

Problem/Motivation/Solution/Evaluation

- The Motivation:
- Why is the problem worth solving?
- Who cares, and why?
- Can you relate the problem to:
 - Money
 - Health and safety
 - Happiness

Problem/Motivation/Solution/Evaluation

- The Solution:
- What did you do about the problem?
 - E.g., what did you do to make it easier to learn a foreign language
 - E.g., you found a constant-time algorithm for XYZ
- (How did you go about solving the problem)

Problem/Motivation/Solution/Evaluation

- The Evaluation:
- How do we know that your solution is a *good* solution to the original problem?
- Start to think in terms of problems, motivations, solutions, and evaluations!

Argument template

- Claim
- Reason
- Evidence
- Part III of *The Craft of Research*

Finding problems in writing