



Why to give an academic talk?

- You have a good work, and want others to know about it
 - *Leveraging academic talks to increase the impact of your research, e.g., conference presentations*
- You have to give a talk
 - *A talk is necessary in a campus interview*
- Your future employers expect your skills to give good talks

Thinking of the audience first – types of the talks



- The audience determines the talk
- Always ask
 - *What needs to be understood to convey your ideas?*
 - *What can you expect the audience to already know?*
- *Check first the types of events and also the audience that you are going to address*

Thinking of the audience first – types of the talks



- Conference talks
 - *How long?*
 - *Who are the audience?*
 - *What you aim for by giving the talk?*

Thinking of the audience first

– types of the talks



- Conference talks
 - *Usually 15-20 minutes long, and maybe there is time for one or two questions.*
 - *The audience is usually students, academics, and researchers in industry.*
 - *The talks are organized by topic, so most of the audience are at least somewhat familiar with your topic.*
 - *Your objective is to get people to know or interested in your work.*
 - *You don't have time to present every detail.*

Thinking of the audience first – types of the talks



- Job talks
 - *How long?*
 - *Anything different from a conference talk?*

Thinking of the audience first

– types of the talks



- Job talks

- *Usually 50 minutes and 10 extra minutes for questions.*
- *You should impress the people in your sub-area with the depth of your contribution.*
- *You should also impress the rest of the department, who should understand your problem, know why it is important, and also rough idea of what you did.*
- *The way you handle questions is also very important.*

Preparing the talk

- Before preparing your slides
 - *The length of the talk, and the date and time*
 - *How many people will listen, and the place*
 - *What topic to choose*
 - *E.g., for a conference talk, an invited talk, or a job talk?*
 - *Research on the topic*
 - *What if you are going to present a paper?*
 - *Refining and narrowing down the topic*
 - *Again, what if you are going to present one of your own work?*

Preparing the talk

- Good practices on preparing your slides
 - On the organization
 - *The talk is an advertisement of your research work, rather than a replacement of your paper.*
 - *The slides should convey ideas, rather than details.*
 - *You are to convince the listeners to read your paper!*
 - ***How to achieve? Emphasizing the big picture!***
 - *Spending more on motivation and setting context, and less on technical details*
 - *Giving the listeners one big take-home idea/message*

Preparing the talk

- Good practices on preparing your slides
 - On the organization
 - *Starting with the main message (at least motivation and the context), and always returning to the main message with depth added successively*
 - *A way of implementation: you may break your talk into sections, and use an outline slide to alert the audience on the transitions of subject and how they relate to the main message*

Preparing the talk

- Good practices on preparing your slides
 - On the organization, *ask yourself the following questions when preparing slides and doing rehearsal*
 - *Could the audience remember the motivation?*
 - *Could the audience state the main idea?*
 - *Could the audience summarize the talk in a few sentences?*
 - *Would some of the audience come back to read the paper?*

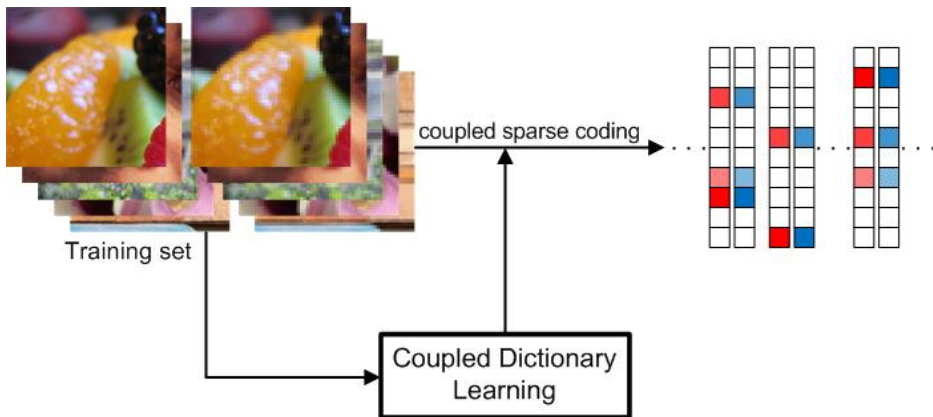
Preparing the talk

- Good practices on preparing your slides
 - Reminding yourself: the purpose of slides is to give you index about what to say
 - *Previously, speakers prepared index cards*
 - *Go back to the old tradition of using your slides as index cards*
 - *Have you ever listened to the talk given by e.g., Nobel laureates?*
 - Using the right titles, *both for your talk and each of your slides*

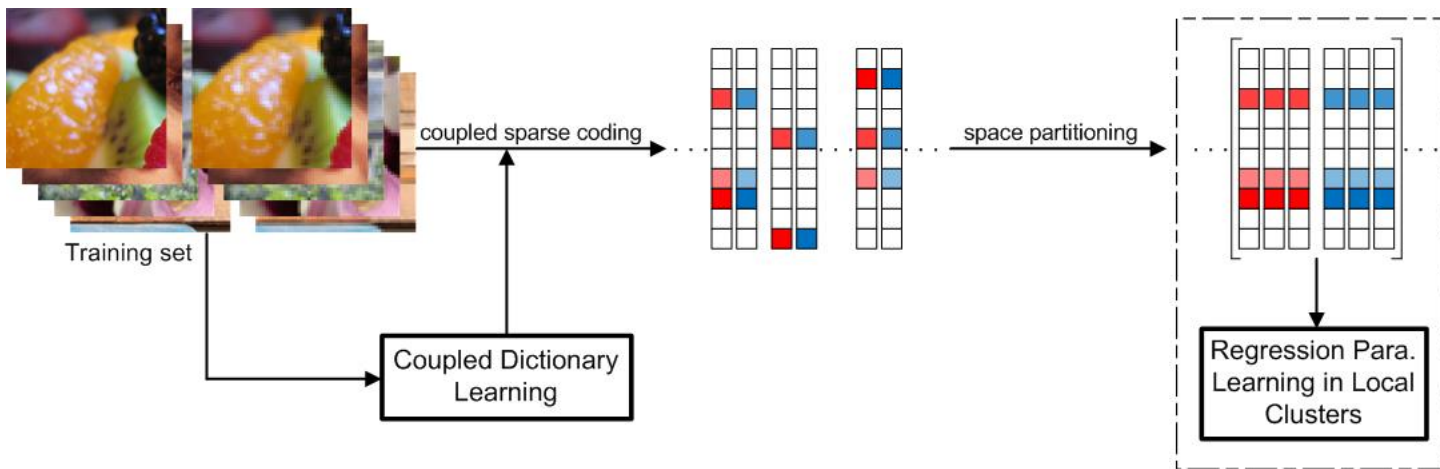
Preparing the talk

- Good practices on preparing your slides
 - Minimizing use of texts, maximizing use of pictures
 - *As an exercise, may you make a talk where the only text is the slide title?*
 - But don't make your pictures/diagrams too complex
 - *E.g., you may build diagrams node by node, and edge by edge, using animation*

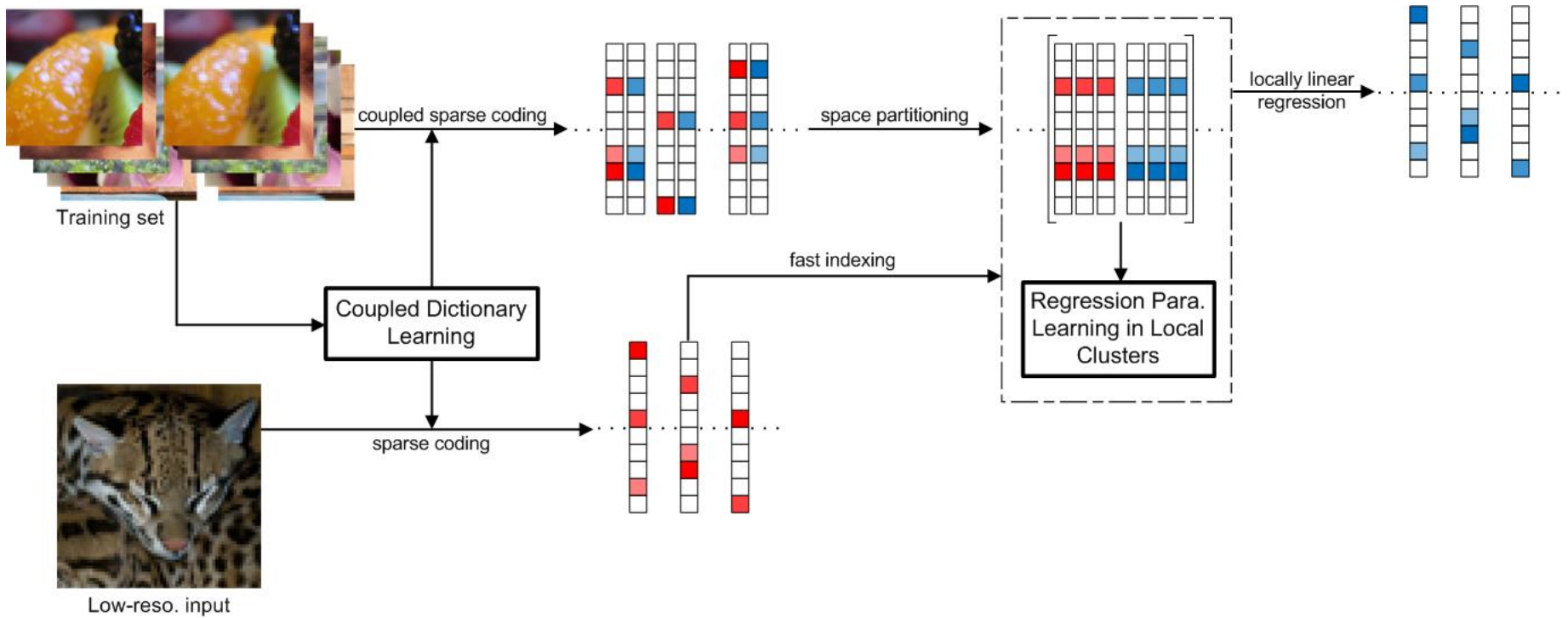
Our framework



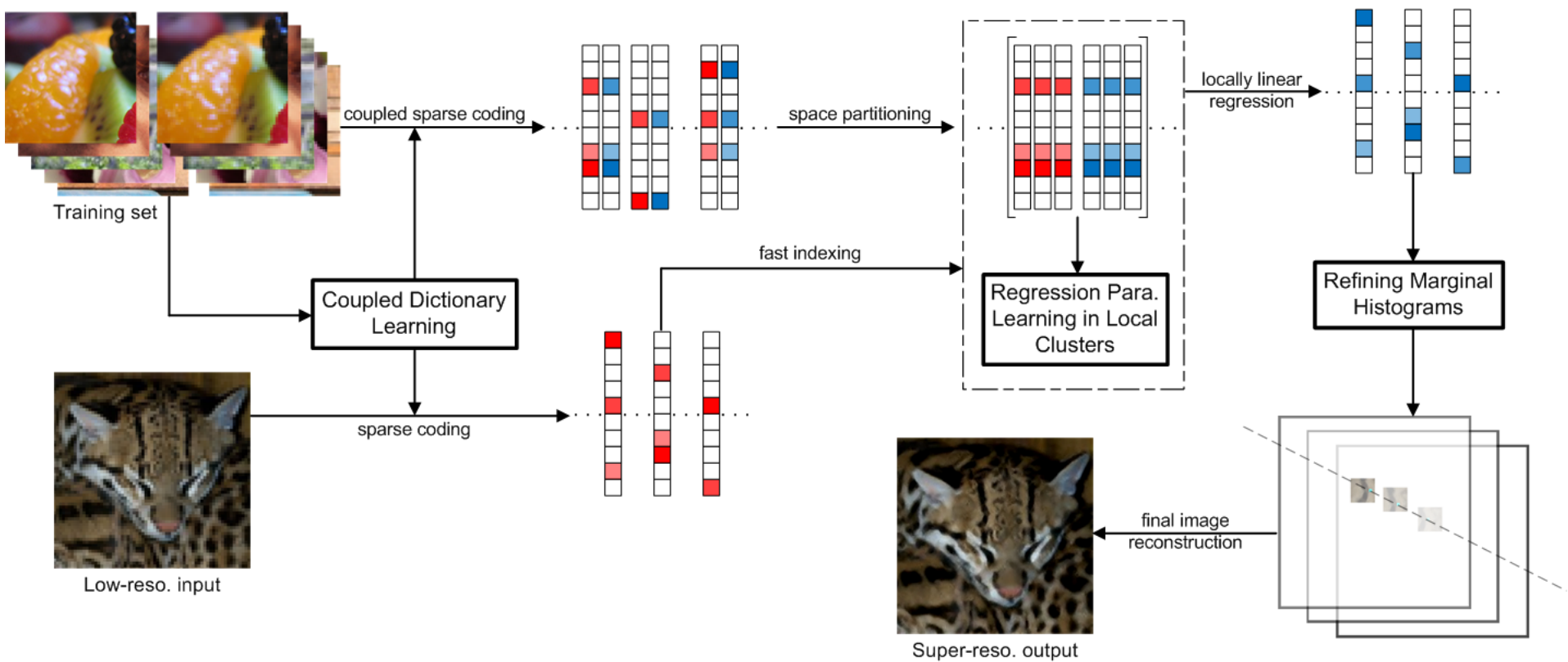
Our framework



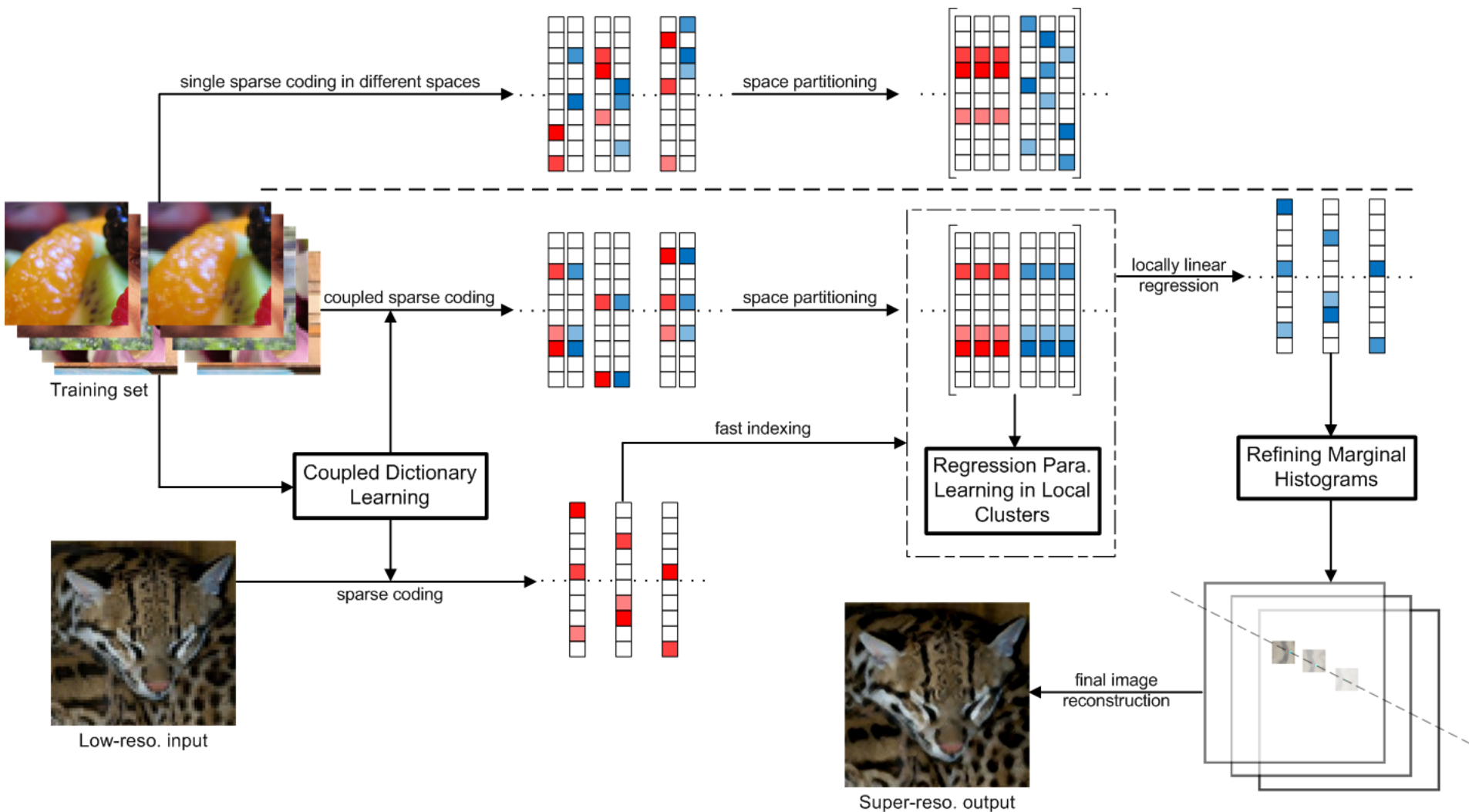
Our framework



Our framework



Our framework



Preparing the talk

- Good practices on preparing your slides
 - How to present math equations?
 - *Trying to reduce the use of math as much as possible*
 - *If you plan to use math, ask questions:*
 - *Is understanding this math essential to the idea?*
 - *Is there a way to use diagram instead?*
 - *Is there a way to use plain English instead?*
 - *A common trick is to use arrows and labels pointing to the variables in an equation, giving them physical meanings.*

Preparing the talk

- Good practices on preparing your slides
 - How to present math equations?

D – corrupted & misaligned observation



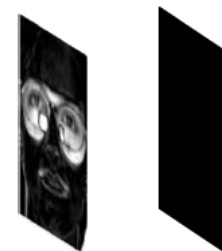
$\circ \tau =$

A – aligned low-rank signals



+

E – sparse errors



Problem: Given $D \circ \tau = A_0 + E_0$, recover τ , A_0 and E_0 .

Parametric deformations
(rigid, affine, projective...)

Low-rank component

Sparse component

Preparing the talk

- Good practices on preparing your slides
 - Some rules of thumb
 - *Using appropriate fonts*
 - *Using color sparingly to emphasize main messages*
 - *Using short, clear bullet points, rather than long sentences*
 - *Filling in details verbally, if necessary*



Preparing the talk

- Good practices on preparing your slides
 - *You should use appropriate fonts, and use color sparingly to emphasize main messages. You should also organize slides to emphasize the big picture. Bullet points are far more effective than paragraphs. You can fill in some of the details verbally during your talk. In fact, you do not need to use complete sentences in your slides.*

Preparing the talk

- Good practices on preparing your slides
 - Some rules of thumb
 - *Making your slides look simple, e.g., not necessary to list your talk title or conference name on every page*
 - *On the use of visual aids (e.g., video/sound clips): must comment on what these visual aids illustrate and tie with your main message*

Preparing the talk

- Outline of a conference talk
 - *Title/author/affiliation/e-mail address (1 slide)*
 - *Motivation (2-3 slides)*
 - *Similar to the first few paragraphs of your paper's introduction*
 - *For an application talk, describe the data problem and its usefulness*
 - *For a theoretical talk, describe the problem and limitations of current approaches*
 - *Outline (0-1 slide)*

Preparing the talk

- Outline of a conference talk
 - *Background information (1-2 slide)*
 - *New Methods (4-5 slides)*
 - *Main body of the talk*
 - *Do not just present formulas*
 - *Motivate them and interpret them to give insights*
 - *Results (3-4 slides).*
 - *Do not superficially cover all results*
 - *Choose key results to present*

Preparing the talk

- Outline of a conference talk
 - *Summary (1 slide)*
 - *Future Work (0-1 slides)*
 - *Optionally give problems this research opens up*
 - *15-20 slides in total*
 - *Remember*
 - *you will spend 1~2 minutes on each slide*

Preparing the talk

- Outline of a job talk
 - *Similar format as a conference talk*
 - *But*
 - *A few extra slides to introduce background knowledge, to make your material accessible to people in other fields*
 - *Double the amount of methods and results*
 - *Optionally mentioning your other related and significant works*
 - *Optionally mentioning your future plan*



Giving the talk

- What three ways help you deliver a good talk?
 - Practice
 - Practice
 - Practice

Giving the talk

- Practice is the key to a good delivery
- But
 - *Not trying to memorize a talk, trying to rehearse it*
 - *Concentrating on your opening*
- During your practice
 - *If transition from one topic to another is awkward, add a slide to make it smooth*
 - *If cannot explain a concept well, consider removing it if it is not essential. Otherwise, use more slides*

Giving the talk

- About speaking
 - *Don't Read. Just talk.*
 - *Talking is more natural to communicate your ideas*
 - *Using plain language, not reading your formal writing*
 - *Vary the pitch of your voice*
 - *Speaking in a monotone makes people feel sleepy*
 - *Emphasizing key points by, e.g., a slow and deliberate voice, and leaving a long pause after a key point*
 - *Giving yourself permission to take as long as you like to think of what to say next*

Giving the talk

- About body language
 - *Make eye contact with the audience*
 - *If this makes you anxious, pretend to make eye contact*
 - *Find a few seemingly friendly faces, speak directly to them, and switch from one to another*
 - *Avoid ignoring one side of the audience*
 - *Stand up*
 - *Move around*

Giving the talk

- About beginning and ending
 - *Start with something easy, e.g., introducing yourself*
 - *You may want to introduce your co-authors or teammates here*
 - *Summarize your talk at the beginning and again at the end*
 - *Making easier for audience to get your main points*
 - *E.g., you may give an overview in the beginning and some take-home messages at the end, with your main messages included*

Giving the talk

- About beginning and ending
 - *Have a sense of ending*
 - *After your final sentence, say something short, e.g., “Thank you”, and enjoy the applause.*
 - *Leave a slide with your main messages on the screen, and take questions*
 - *E.g., you may use a conclusion slide as your final slide*

Giving the talk

- About time management
 - *Finish within your time limit*
 - *Especially for conference talk, job talk ...*
 - *What if you run short of time*
 - *Don't be panic*
 - *Make decisions on what slides/content to skip, either in advance or when giving the talk*
- *Practice, practice, practice*

Handling questions

- Questions received help evaluate your talk
- Always repeat each question so that the entire audience knows what have been asked
- Always show respect!
 - *Even if the question is less relevant, answer it and add more insightful ideas to your response*
- Anticipate likely questions, and prepare in advance
 - *E.g., you may have additional slides in reserve to address likely questions*

Handling questions

- Divert difficult questions
 - *Say directly if you don't know the answers*
 - *A better way looks like this*
 - *"A very interesting question ... I'm not sure of a good answer right now, but you remind me that ..."*
- If a Q & A lasts long or becomes hostile, thank the questioner and move to the next question
 - *E.g., you may say "A very interesting conversation, maybe discuss further after the seminar"*

Handling questions

- What if you cannot understand questions?
 - *Simply let the questioner say again*
 - *Get help from other audience members*
- What if you don't receive questions?
 - *Ask one or two questions by yourself, or ask the audience specific questions*
 - *Help deliver your main messages*



How to reduce anxiety

- Practice
- Practice
- Practice

- Rehearse more of the first few slides, to get a good start
- Giving talks is fun, try to enjoy it!

How to give a bad talk?

- Explain details, *rather than motivate ideas*
- Read slides, *rather than talk*
- Use long sentences, *rather than clear bullet points*
- Sit down, *rather than stand up*
- Stare at the screen or laptop, *rather than make eye contact*
- Speak in a monotone, *rather than vary the pitch of voice*

How to give a bad talk?

- Run overtime, *rather than finish within time limit*
- Don't practice, *rather than do rehearsal*
- Start without overview and end without conclusion, *rather than summarize your main messages in the beginning and at the end*
- ...

Are you tempted to give your talks?