How to prepare a presentation

ALF

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Objectives

1. **Sensitisation** on presentation importance
2. **Practical advices** on preparation

Typical scenario

- You've completed a "large and complex project"
- You're proud of *quantity* and *quality*

- Need to present it

- Objective: convince others about
  - Quality of job / results…
  - … and your quality

Average student

- Does not understand the presentation **importance**
  - Believes job quality is **obvious**

- Does not perceive the **difficulty** of crafting a presentation

- Considers it a **formality** (burden)
- Crafts it without commensurate **effort**
- Does ignore the **fundamental rules**

Law of Nature

- IF an awesome job is terribly presented

- THEN
  1. **No one** understands it's awesome
  2. The job is perceived as **terrible**

Ideal scenario

- Plenty of time for presenting
- Everyone’s dying to listen to you
- Everyone knows objectives and problems
- Everyone’s absolutely paying attention, without interruption

- EASY

Real scenario

- You have ~ 20 minutes
- Someone remembers what you had to do
- A few know the technicalities
- Everyone’s going through something in life
- Not everyone *can* or *wants to* pay attention all the time

- VERY, VERY, VERY HARD

General premises

What’s the context

1. To **whom** shall I present
2. **How long** do I have

To whom shall I present

- University lesson
- University seminar
- High school conference
- Non-scientific talk
- Large scientific conference
- Thesis defence

Newbie hypothesis

- **Infinite** amount of time
- Need to talk about **everything** that has been done

- The audience
  - Has **infinite** intelligence
  - Has **infinite** comprehension speed

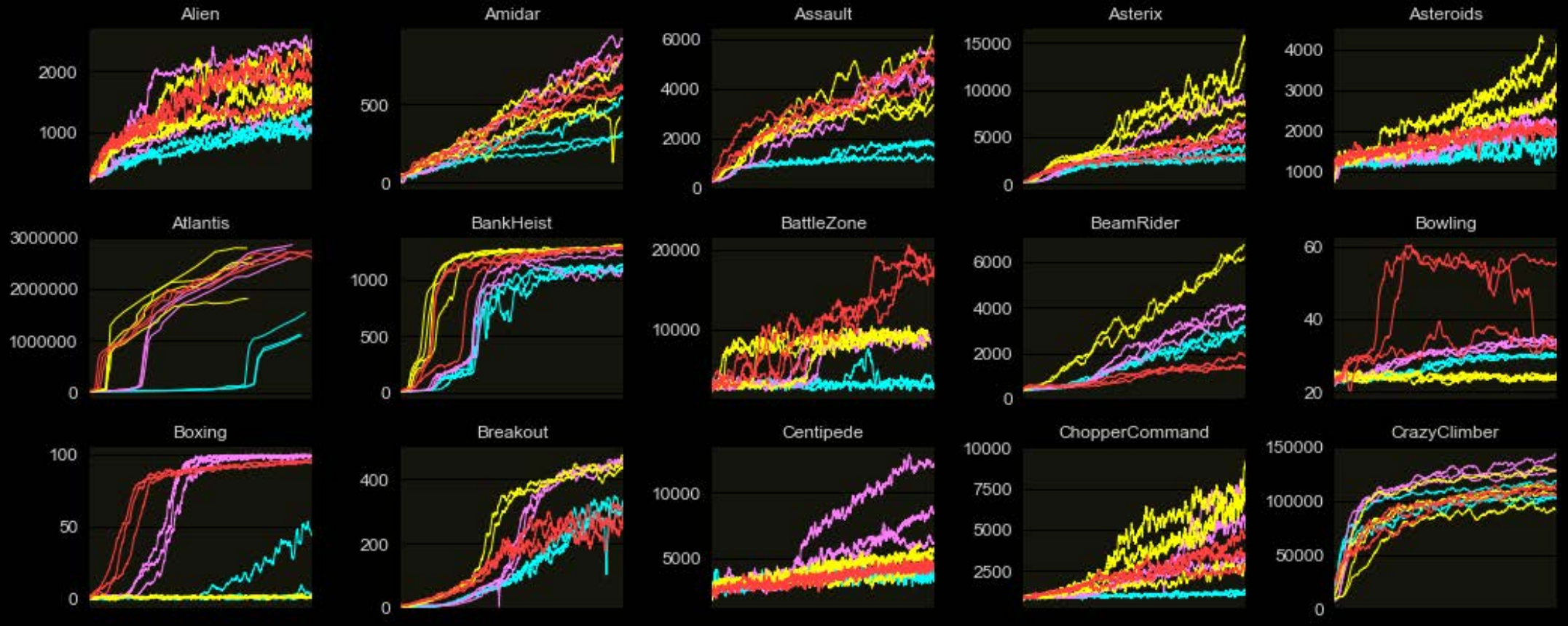
- A **few reviews** to the initial draft are sufficient

Correct hypothesis

- I have *k* minutes ⇒ **need to practice**
- Many interesting things will **definitely be skipped**
- If I prepare well, *someone* may understand *something*
- Will be required **very many iterations** and **edits**

Infinite comprehension speed

- Total time 5 seconds to say…
- As you can see, we're the best performing solution



Correct approach

1. Explain **explicitly** what *x*- and *y*-axis are
2. Comment **every** chart
3. Point out the **most significative** part
4. State if better is **above** or **below**
5. If possible, show ideal curve

Presentation organisation

Initial part

- Two questions to address

1. What is the **problem**
2. Why it is **relevant**

Common WRONG approach

- Mix of:
  - What has **been done**
  - How it **works**
- This is the **solution**

- How can anyone understand anything if no **problem** has been described???

Problem ≠ solution

- **Solution details**: little important
  - **No one** understands them
    - Too short time
    - Heterogenic audience
  - They are **not** the presentation objective
    - Thesis or article are used for this

- **Problem relevance**: very important
  - **Everyone** can understand it

Problem description (I)

- It is the **most critical** and **most important** part

- Who does not understand it turns off
- It is the only fully understandable part
- If you’re not able to explain the problem,
  how can you motivate the listener?

Problem description (II)

- From one sentence up to two slides
- Depends on
  - Problem’s nature
  - Audience type

- **Do not spare effort**
- **Rehearse, rehearse, and rehearse again**

Problem description (III)

- **Concise**
  - And **separated** from *why* it is relevant
- **Specific**

Generic *vs.* specific *e.g.* (I)

- *Text to image*
  - NO
- *Generative adversarial text to image synthesis*
  - OK

Generic *vs.* specific *e.g.* (II)

- *Image inpainting*
  - NO

- *Semantic Image Inpainting with Deep Generative Models*
  - YES

The solution (I)

- The **details** can be understood **only** by whom has **already** worked on the **same** problem
  - Often, no one understands them
- Cannot be written approximately
- Who is interested will make questions

The solution (II)

- It does **not** make sense to
  - Fill slides with formulae / algorithms / diagrams
  - Tell the whole journey to get to the solution

- It’s hard enough to communicate the relevance
- Not **how it works** but **why it’s necessary**

Thesis defence

- Need to identify the **personal contribution**
- Which is often hard to grasp…

Personal contribution

- Things **NOT** to do
  - Waste time on project importance
    - **Candidate work** is under evaluation
    - Not the project / affiliation

- Things to **DO**
  - How it was **before** and how it is **after**
  - What **you** did and what **others** did

Practical suggestions

Presentation preparation

- **Estimate 2–3 minutes per slide**

- Fundamental for
  - **Assessing** how many things can be told
  - Convince oneself that many thing **won’t** be said

Give up to begin with

- **Do not rush describing “everything”**

- Carefully curate problem and relevance
- A few interesting bits will have to be omitted

- **NEVER** speed up (or reduce the explanations) in order to say more things

Mind the time!!!

- **Never exceed the allocated time**

- In the *real world*, time is the most valuable resource anyone has
- Basic **respect** character towards colleagues and audience

- Better finish slightly earlier than later
- **Never** end up with 15 slides 2 minutes to the end

Make many trials

- **Perform presenting trials, aloud**

- Very annoying but **indispensable**
  - Estimate timings
  - Identify complex / dangerous points

Memorise the beginning

- **Learn by heart the first 3–4 minutes**

- Necessary to get going
- If you freeze at the beginning (emotional), you'll stay frozen

Never improvise!

- **Decide in advance what to and not to say (never add on the go)**

- One may often want to add and clarify
  - **Very dangerous!**
  - Turn a blind eye: if needed, questions will be asked

- Do not talk of things you didn’t plan to talk about

Where to look

- **Do not make eye contact**

- Easy to discourage oneself
  - *“He’s sleeping, am I saying boring things?”*
  - *“She’s laughing, am I telling stupid things?”*
  - *…*
- Look at the **opposite wall**
- Do **not** expect nodding
- **Any** feedback to consider: questions

How to speak?

- **Slowly, without hurry, loudly**

- Impossible
  - Following high speed speech
  - Concentrating on listening whispers

- Many (me included) do not like seeing the speaker with his/her hands in his/her pockets

Practical suggestions: the slides

Better this…

- Since the emergence of Deep Neural Networks (DNNs) as a prominent technique in the field of computer vision, the ImageNet classification challenge has played a major role in advancing the state-of-the-art. While accuracy figures have steadily increased, the resource utilisation of winning models has not been properly taken into account. In this work, we present a comprehensive analysis of important metrics in practical applications: accuracy, memory footprint, parameters, operations count, inference time and power consumption.
- Key findings are: (1) power consumption is independent of batch size and architecture; (2) accuracy and inference time are in a hyperbolic relationship; (3) energy constraint is an upper bound on the maximum achievable accuracy and model complexity; (4) the number of operations is a reliable estimate of the inference time. We believe our analysis provides a compelling set of information that helps design and engineer efficient DNNs.

… or this?

- Comparing networks for publishing
  - Accuracy

- Comparing networks for practical applications
  - Accuracy
  - Memory footprint
  - Parameters
  - Operations count
  - Inference time
  - Power consumption

What is a slide

- Aid for the presenter…
- … **and above all for the audience**

- Used for **following** a presentation
- It is **not** the presentation

Density

- **It must be comprehensible at first sight**

- **Not** full of words
- **Not** presentation transcript
  - *(although this is an exception)*

Writing style

- **Adopt a telegram style, eliminate any unnecessary word**

- Algorithm
  1. Write a sentence
  2. Remove every unnecessary word

Logic structure ⇒ graphical structure

- **Clearly separate concepts with graphics**

- Mustn't require reading concentration
- Who **concentrate reading** won’t **concentrate listening**

- Suggested style:
  - Bullet points with one concept per point
  - One or two hierarchical levels
  - Reasonable usage of **bold**, *italic*, and **a few** colours
- Advanced style:
  - Avoid text altogether
  - Use drawings…
  - … and animations

Font

- At least 20 points
- 24 is better
- 28 is perfect

- Printed font are bad for screen font
  - Times New Roman is **not** okay
  - Palatino is also **not** okay

- Calibri, Tahoma, Arial, Helvetica are **good choices**

Colours

- Better black background and white characters
- Or white background and black characters
- Better than weird combinations
- Like these two

Special effects

- Remove “special effects”, fading is all you need
- Technical presentation ≠ advertisement

It’s not easy

- Rehearse, rehearse, rehearse

Summarising…

- **Independently** from your future career
  - Having technical qualities **is not enough**
  - It’s fundamental that they can be **communicated to others**

- Fundamental
  - Know how to **present** your own work
  - Spend **time** and **effort** in the preparation

Last slide

- Will be shown for the longest amount of time
- Do **not** waste it to thank the audience
- Use it for something **meaningful**
  - Summary of achievements
  - Future work
  - List of published works