From good results to convincing research

A2 feedback / Preparing A3

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What made the strongest A2 presentations interesting?

Start from an observed problem
Two concrete problems motivated targeted solutions; the JBT analysis explained what the filter changed.

Go deep on a focused question
A WGAN-GP starting point, one method, and the same evaluation setup across experiments.

Let analysis motivate the next step
Analysis of the first method led naturally to D2GAN, rather than a disconnected second paper.

Organise around hypotheses
Explain what you are testing, show what happened, then discuss what it means.

Anonymous examples from the A2 oral presentations. These are scientific and communication strengths, not a ranking.

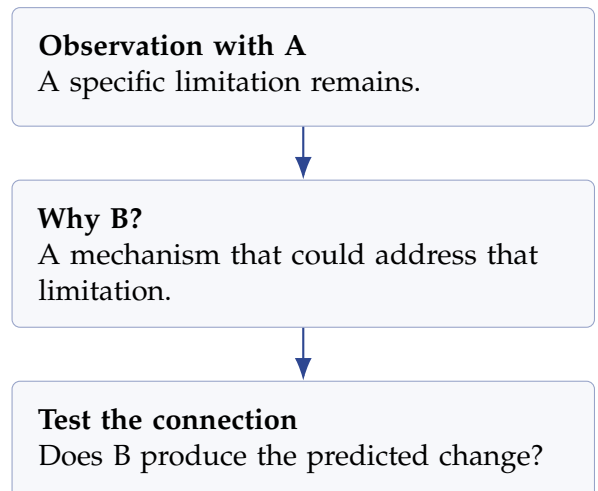
For A3: one method, investigated properly

The default

One method. Understand its mechanism, investigate its parameters, test its limitations.

A justified extension

Two methods only if genuinely complementary. Explain why the second addresses a limitation revealed by the first.



Expectation for the next project. Two unrelated methods do not make a stronger investigation.

What does "test a hypothesis" mean in practice?

Observe: an intervention seems to increase accuracy under a short PGD attack.

↓

Propose explanations: the model resists the attack better *or* the attack is no longer effective enough.

↓

Predict: what should happen when the attack is strengthened, at the *same perturbation budget*?

↓

Experiment: vary attack steps and restarts; adapt the attack when the defence requires it.

↓

Interpret: which explanation is supported, contradicted, or still unresolved?

Illustrative A3 investigation. A failed attack does not certify robustness; the assignment evaluation protocol is unchanged.

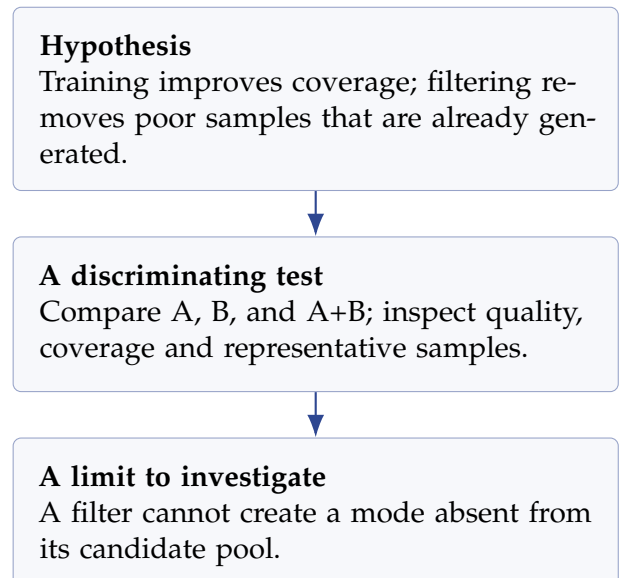
"Both improve the score" is not an explanation

A2 example: training + rejection sampling

A better training procedure and an inference-time filter may act on different limitations.

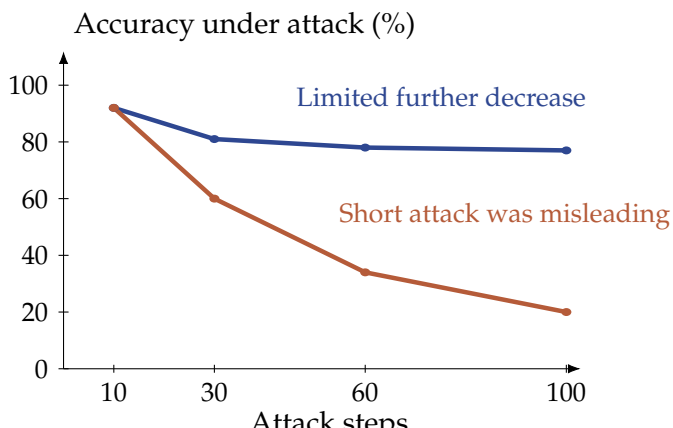
Explain the proposed connection:

- What does the first intervention change?
- What limitation remains for the second?
- Which observation supports that mechanism?



Illustrative mechanism, not a universal conclusion. Attribute effects cautiously when several factors change together.

Make the figure carry your argument



Schematic curves only: not measured results.
Same perturbation budget throughout.

Tell us what to look at.

- State the question before showing the plot.
- Label axes, units, conditions and uncertainty where relevant.
- Explain the trend and its limits.
- Say what experiment should come next.

Use readable vector figures and equations. Avoid dense tables, screenshots of mathematics, and slides you cannot explain in time.

Planning to run on Juliet? Start now.

If you plan to run on Juliet, start early.

Submit jobs as soon as possible!

Test the whole path now

- Login, environment and imports.
- Data paths and one short training job.
- Logs, outputs and checkpoint recovery.

A submitted job may wait before running. Queue times are not guaranteed.

Allow time for the queue

- Request resources that match the job.
- Test before submitting a long run.
- Do not leave the first submission to the final night.

A3: A FOUR-MINUTE RESEARCH STORY

Question	Method	Experiments	Interpretation	Take-away
20 s	45 s	110 s	45 s	20 s

At the oral

- Four minutes; the alarm ends the talk.
- Rehearse, speak clearly, and address the room.
- Explain the useful mechanism, not every detail of the paper.

In the report

- Expand the evidence and interpretation.
- Answer specific follow-up requests.
- Separate what you observed, what you infer, and what you still do not know.

Example time allocation, not a mandatory script. Slides in a wide format, matching the course deck; concise and readable throughout.