

The Shrinking Cloud Mystery (*gaussianCollapse suite*)

1. Run & Observe

- Execute **gaussianCollapse.py**.
- On the variance plot try to figure out, where something seems to change fast.
- In the scatter subplot identify two visual clues that the cloud is no longer the one we started with.

2. Layered Evidence

- Now run **gaussianCollapse_overlay.py**.
- Overlay the mid-generation on the initial cloud by toggling the layer (there's a legend).
- **Estimate:** *What fraction of new points still fall inside the convex hull of gen-0?*
- Note any *direction* in the drift (e.g. "north-east").
- Compare to your original prediction—did you underestimate the change?



3. Intervention 🌀

- Open **gaussianCollapse_prevented.py**.
- Pick **three** alpha values (very small, medium, large) and rerun. For each run, answer **two** questions in one concise bullet each:
- *How high does the variance curve bounce before flattening?*
- *Does the cloud still drift?* (yes/no + one-word qualifier: slow / fast)



Why? 💡

- Without looking up textbook definitions, explain: Model collapse is ...