AI SAFETY SANDBOX · BIOSECURITY

Is AI actually speeding up drug discovery?

Intermediate · A few weeks · Free · Project idea

Online version: https://ai-safety-sandbox.vercel.app/projects/drug-discovery-bottlenecks/

Summary

Where is AI actually speeding up work on medical countermeasures, and where are regulation, trials or manufacturing the main bottleneck?

Why it matters

How fast we can make vaccines and drugs determines how bad the next pandemic gets. Knowing the real bottlenecks tells funders where to push.

What you will have at the end

An evidence review with a clear bottom line.

Possible directions

- Is AI actually accelerating drug discovery?
- The real bottlenecks, including regulation
- How fast could a countermeasure be made, in principle?
- Is ML needed for protein folding, or would more compute suffice?

How to start (tick each box as you go)

- [ ] **1. Write your question in one sentence.**
- [ ] **2. Spend 30 minutes finding what has already been written about it.**
- [ ] **3. Collect evidence in a simple table: claim, source, how strong.**
- [ ] **4. Draft 1–2 pages: answer first, then reasons, then uncertainties.**
- [ ] **5. Ask one person to poke holes in it, revise, and share.**

Source and links

Hatta & Bazarragchaa — A hundred project ideas in biosecurity (2025)
https://casualphysicsenjoyer.com/Essays+in+progress/Biosecurity/A+hundred+project+ideas+in+Biosecurity

When you have finished

Write a few paragraphs on what you did, what you found and what you would try next, and share it with a friend, your society or online.

Courses, mentors, small grants and communities:
https://ai-safety-sandbox.vercel.app/next-steps/

Questions? Ask in AI Safety Cardiff University (AISCU): https://aiscu.org/

Notes