

PROJECT PROPOSAL

Strengthening Global Governance for AI-Enabled Biological Threat Detection

Project Type: Policy research, governance analysis, global landscape mapping

Duration: 3 months

Mentor: Dr. Aparupa Sengupta

Ideal Mentees: Students or early-career professionals in policy, international relations, biosecurity, AI governance, or public health; strong writers; comfortable with analytical synthesis.

Project Overview

As advances in AI accelerate, a growing ecosystem of AI-enabled tools—including those used in sequence screening, biosurveillance, and biological threat assessment—is rapidly emerging. However, global governance mechanisms have not kept pace. Nations, institutions, and private developers lack shared standards for evaluating the safety, equity, and responsible deployment of AI systems relevant to biological risk.

This project aims to address this gap by developing a **global governance mapping and policy framework** that identifies key actors, evaluates existing mechanisms, and proposes actionable pathways for responsible oversight of AI tools used in biological threat detection.

Project Goals

1. **Create a global landscape analysis** of AI-enabled systems relevant to biological threat detection (e.g., sequence screening, anomaly detection, biosurveillance analytics).
2. **Identify governance gaps** across international, national, and non-state actors.
3. **Develop a practical evaluation framework** for assessing safety, transparency, and governance readiness of such tools (fully non-technical).
4. **Propose actionable policy recommendations** for cross-border coordination and responsible deployment.

Why This Matters

AI–bio convergence presents transformative benefits but also new governance challenges. Funders, institutions, and policymakers need clarity on the emerging ecosystem and on how to responsibly integrate these tools into global biological threat prevention. This research directly supports that need by delivering a structured, actionable governance roadmap.

Three-Month Work Plan

Month 1 – Landscape Mapping

- Review existing AI-enabled tools used in detection, screening, and early-warning systems.
- Map institutional actors: WHO, OECD, national agencies, NGOs, industry developers, and standards bodies.
- Identify current governance frameworks (international treaties, AI guidelines, biosafety/biosecurity norms).
- Deliverable: *Preliminary landscape map + annotated bibliography.*

Month 2 – Gap Analysis & Framework Development

- Conduct a global gap analysis comparing current norms vs emerging needs.
- Interview policymakers or experts (optional, depending on mentee capacity).
- Draft a “**Governance Readiness Assessment Framework**” with key dimensions (safety, transparency, equity, accountability).
- Deliverable: *Draft governance evaluation framework + gap analysis summary.*

Month 3 – Policy Recommendations & Final Outputs

- Develop policy recommendations for cross-border governance of AI-enabled biological threat detection.
- Finalize the evaluation framework and produce a short white paper summarizing findings.
- Optional: Create a 1–2 page policy brief for dissemination.
- Deliverable: *Final white paper + 2-page policy brief.*

Projected Outcomes

- A first-of-its-kind governance map of AI-enabled biological threat detection tools.
- A practical framework for evaluating responsible use.
- Action-oriented policy guidance for funders, policymakers, and researchers.
- A strong writing sample for mentees interested in AI governance or biosecurity.