PRINCIPLES FOR ENVIRONMENTAL JUSTICE IN TECHNOLOGY: *TOWARD A REGENERATIVE FUTURE FOR COMPUTING*

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INTRODUCTION

Rooted Futures Lab is a research and action collective dedicated to advancing environmental justice in technology.

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REFRAMING COMPUTING IN A TIME OF PLANETARY CRISIS

- This work introduces the Environmental Justice in Technology (EJIT) Principles:
  - A values framework for reorienting computing
  - Grounded in collective care, anti-colonial practice, and ecological regeneration
  - Designed to guide us within ecological and social limits

“To compute within limits is not merely to constrain, but to fundamentally reimagine the purpose, process, and politics of technological creation.”

A COMPASS FOR REFUSING HARM AND REIMAGINING INNOVATION

- Environmentally just technology is explicitly anti-racist.
- Environmental justice in technology empowers those who wish to live without certain technologies. It demands preserving traditional Indigenous ways of living without interference from capitalist and corporate technologies.
- Environmental justice in technology strives to eliminate global and local burdens inherent in its creation.
- Environmentally Just Tech is **intentional about harm**. It is cognizant of who a given technology helps and who it harms.

ROOTED IN JUSTICE MOVEMENTS AND CRITICAL TRADITIONS

The EJIT Principles insist that justice is a baseline requirement, not a peripheral add-on, in technological development.

SAYING NO IS A GENERATIVE ACT

- Many technologies - like predictive policing, water-intensive data centers, or lithium extraction - deepen harm while presenting as innovation.
- Refusal of harmful default conditions must be a core component of the design process.

TECHNOLOGY IS NEVER NEUTRAL

- Technical systems always reflect power structures - whether acknowledged or not.
- Environmental justice in tech demands anti-racist, anti-colonial design that refuses alignment with systems of violence and dispossession.

RESTRUCTURING INNOVATION FOR COLLECTIVE FLOURISHING

- Mainstream innovation is built on speed, novelty, and capital. EJIT redefines it through:
  - Responsibility: anticipating harm and designing for care
  - Access: all people must have the tools and resources to shape technology
  - Empathy: central to intent, process, and impact
- EJIT reflection prompts:
  - Are potential consequences anticipated and addressed?
  - Is innovation collective and plural, not top-down?
  - Who defines the problem and the solution?

TECH IS NOT OUTSIDE OF NATURE—IT IS EMBEDDED WITHIN IT

- Environmental justice in tech requires both ecological humility and political accountability
- Core provocations:
  - Does this system preserve ecological beauty and utility for future generations?
  - Does it include cleanup and restoration for harms already caused?
  - Is its relationship to nature one of collaboration, not conquest?

EQUITY MUST BE BUILT IN, NOT BOLTED ON

- Environmental justice in technology is inseparable from access and accountability.
- Reflection questions:
  - Can users fix, adapt, and modify the technology themselves?
  - Who has control and consent over its deployment?
  - Does the system address structural legacies of harm

OPERATIONALIZING THE EJIT PRINCIPLES

- The EJIT framework can be used to assess and guide technology projects through four core criteria:
- Power Redistribution
  - Does the system transfer decision-making authority to frontline and historically marginalized communities?
- Harm Repair
  - Are there explicit plans for restoring ecosystems and communities impacted by past technologies?
- Careful Open Access
  - Are blueprints, repair guides, and data publicly accessible and usable?
- Contextual Deployment
- Is the technology locally appropriate and deployed only where beneficial?

WHERE EJIT CAN SHAPE TECHNOLOGICAL WORK

- Education & Curriculum Design
  - Integrate justice as a foundational concept in computing and engineering
  - Use participatory methods and community-grounded case studies
  - Train technologists to recognize and resist extractive logics
- Project Assessment & Evaluation
  - Go beyond usability and performance
  - Use justice-centered metrics: distribution, recognition, participation
  - Consider legacy impacts and future accountability

WHERE EJIT CAN SHAPE TECHNOLOGICAL WORK

- Open-Source & Community-Led Development
  - Prioritize transparency, repairability, and local governance
  - Enable adaptation by those most affected
- Infrastructure Decision-Making
  - Require community consent, not just consultation
- Account for land, labor, water, and refusal, not just technical feasibility
- Structural orientation for building alternatives

TOWARD A JUSTICE-CENTERED TECHNOLOGICAL FUTURE

- An invitation to build differently
- Every byte, build, and blueprint is an opportunity to enact care

THANK YOU!

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REVERSE PANEL

- What systems (within your work, institution, or field) normalize environmental + social harm in the name of "innovation", and how might you refuse them?

- What is a technology that you like, use, and believe in that is still reproducing extractive or colonial dynamics? What would it cost - politically, socially, and/or materially - to build it differently?

- Is there such a thing as environmentally just AI?