NTARI Volunteer Handbook

Understanding Quantum-Enhanced Network Analysis for Collective Intelligence

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1. Project Overview & Goals

Welcome to the NTARI volunteer program!
You're joining an ambitious effort to harness **quantum computing** and **network theory** to improve how communities understand and strengthen their knowledge networks.

Project Goals:

- **Map online and civic communities** using quantum-enhanced tools.
- **Detect hidden structures** within social and information networks.
- **Empower citizen scientists** and local researchers to use cutting-edge technology for public benefit.

NTARI's Quantum Community Detection Platform leverages **quantum optimization** (via QUBO and QAOA) to identify community clusters in graphs better than classical tools.

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2. Volunteer Roles & Responsibilities

We welcome volunteers from all scientific backgrounds! Your tasks may include:

- 🧠 **Data Collection:** Gathering public datasets (e.g., forum interactions, civic organization networks).
- 🧪 **Analysis Support:** Uploading datasets to our platform and interpreting visual results.
- 🧰 **App Testing:** Providing feedback on UI/UX during platform development phases.
- 📊 **Outreach & Education:** Helping us host workshops or explain results to community groups.
- 📝 **Documentation:** Writing user guides, FAQs, or educational content.

> You don't need to be a quantum physicist—just curious, community-minded, and reliable.

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3. Onboarding & Training Process

We've designed a simple onboarding path:

1. **Sign-Up & Profile Creation**: Register on NTARI's Volunteer Portal.
2. **Intro Session**: Attend a virtual orientation on Zoom (schedule shared via email).
3. **Training Modules**:
   - Intro to NTARI's mission
   - Basics of network theory
   - Understanding quantum-enhanced community detection
4. **App Walkthrough**: Guided demo of the analysis platform.
5. **Slack Workspace Invite**: You'll be added to our #volunteer-team and #platform-testing channels.

> Expect about 2–4 hours of self-paced training in your first week.

4. Fieldwork Procedures

🗂️ Data Collection

- Identify publicly available datasets (social graphs, citation networks, etc.)
- Use ethical sources—no scraping of private user info.

📱 App Usage

- Access the platform at NTARI Quantum Tools.
- Upload datasets in `.csv` or `.graphml` format.
- Run analyses, view community clusters, and download reports.

🔒 Safety & Privacy

- Never share private or sensitive data.
- Use alias identifiers where necessary (e.g., "UserA", not "John Doe").
- Always follow NTARI's Data Ethics guidelines (provided during onboarding).

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5. Code of Conduct & Confidentiality

As a volunteer, you agree to:

- Respect fellow volunteers, staff, and community partners.
- Act in the public interest—no commercial use of NTARI tools or data.
- Keep unpublished research findings confidential until release.
- Report any misuse or ethical concerns to the coordinator team.

We foster an inclusive and respectful environment. Discrimination, harassment, or inappropriate behavior will result in removal from the program.

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6. Communication & Reporting

Channels:

- **Slack**: Primary team communication — channels include `#volunteer-team`, `#data-insights`, and `#dev-updates`.
- **Email**: Official updates sent weekly.
- **Monthly Check-In Calls**: 1st Monday of each month at 6 PM ET via Zoom.

Contacts:

- **Volunteer Coordinator**: volunteer@ntari.org
- **Technical Questions**: tech@ntari.org
- **Community Partnerships**: partners@ntari.org

> We encourage regular updates—even short reports or questions help keep the team aligned.

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7. Data Management & Quality Control

All data submitted or used must:

- Be sourced ethically and legally.
- Include documentation (source, structure, purpose).
- Be cleaned for accuracy (remove duplicates, ensure consistent formatting).

Before uploading to the platform:

- Review using NTARI's provided `data-prep-checklist.md`.
- Ensure column headers match accepted formats: `source`, `target`, `weight` (optional).

NTARI staff will review final submissions before integration into case studies.

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8. Health & Safety Protocols

While this project is largely remote and digital, in-person events (workshops, presentations) may be scheduled.

In-person event safety:

- Follow all local COVID-19 guidelines.
- Wear badges provided by NTARI staff.
- Notify us immediately of any incidents or concerns.

For all virtual activity, please:

- Use secure logins.
- Avoid sharing login credentials.
- Maintain a quiet, focused environment when testing the platform.

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9. FAQ & Troubleshooting

💻 *What if the platform crashes or I get an error?*

Try refreshing your browser. If the issue persists, post in `#platform-issues` on Slack or email tech@ntari.org.

🧪 *Do I need a background in quantum computing?*

Nope! Our goal is to make this technology accessible. We'll guide you through everything.

🌐 *Can I use my own dataset?*

Yes—so long as it follows our data ethics policy and isn't proprietary or private.

📅 *What's the time commitment?*

Flexible! Most volunteers contribute 2–5 hours per week.

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10. Glossary of Key Terms

Term	Definition
Network Graph	A visual representation of connections (edges) between entities (nodes).
Community Detection	Identifying clusters in a network that are more connected internally than externally.

QUBO	Quadratic Unconstrained Binary Optimization — a format used in quantum computing.
QAOA	Quantum Approximate Optimization Algorithm — used on gate-model quantum devices.
Modularity	A score indicating how well a network is divided into distinct communities.
Annealer	A quantum device (like D-Wave) that solves optimization problems using energy states.
Node.Nexus	NTARI's platform for publishing and exploring collective intelligence research.

👋 Final Note: Let's Build Quantum Communities—Together

Thank you for stepping up. With your help, NTARI is making quantum research tangible and useful—bringing advanced science to communities who need it most. Whether you're analyzing graphs, submitting data, or helping others understand results, you're part of something transformative. Together, we're showing that **technology for the public good** isn't just possible—it's already happening.

Let's chart the future of collective intelligence—one node at a time.