Zain Dana Harper

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Public Accountability, Environmental / Urban Canopy Operations & Technology Policy Analyst

30-Second Work-Sample Proof Strip

- **11 Years Field Ops:** Urban canopy safety, clients & crew lead
- **30 Studies (12 Nulls):** Open empirical archive; 13 Zenodo DOIs
- **1,735 / 115 Tests:** CMMNS civic archival & Flywheel audits
- **harperz9.github.io:** Live work samples & public audit trail

Executive Profile

Field-grounded public accountability researcher, urban forestry operator, and civic systems architect bridging municipal environmental stewardship with verifiable technology oversight. Brings 11 years leading commercial tree-care crews and educating Seattle-area residents on canopy biology, structural risk, and public-safety interventions, paired with 30 published empirical studies (13 Zenodo DOIs, 12 explicit null results), an AI accountability investigation (Who Knew First), and open-source audit tools built for transparent public review.

Core Capabilities & Skills

Public Accountability & Policy: Empirical Evidence Audits, AI Governance & Disclosure Investigations, Preregistered Study Design, Plain-Language Public & Stakeholder Communication, Honest Null Reporting

Urban Ecology & Field Compliance: Tree Biology & Canopy Risk Assessment, High-Hazard Rigging & Crew Safety Protocols, Site Scoping, Utility/Clearance Coordination, Client & Resident Education

Civic Data & Verification Tools: Deterministic Audit Ledgers (engine-receipt/1), Local-First Web Archival (CMMNS), Accessible Data Visualization (148/148 WCAG chart specs), Python, SQLite FTS5, DuckDB

Field Leadership & Public-Facing Operations

Tree Care Crew Lead & Commercial Arboriculture Operations | Legendary Tree
Seattle Area, WA | 2015 - 2026

- **High-Hazard Crew Leadership:** Operated and led tree-care crews across 11 years of urban canopy work, coordinating rigging systems, crane clearances, traffic/site boundaries, and dynamic hazard envelopes with strict safety discipline.
- **Public & Client Education:** Scoped jobs directly with homeowners and property managers, setting clear expectations and explaining tree biology, structural load paths, and why each pruning or removal decision was made using accessible organic analogies.
- **Cross-Domain Ecological Transfer:** Translated field observations of wood mechanics, wind load, and urban canopy structure into open biomechanics simulations (Williams/Almeras tree dynamics in Superframe).

Independent Public-Interest Research & Civic Verification

Independent Researcher & Verification Systems Architect | Harper Research & Open-Source Ecosystem
Seattle, WA | 2025 - Present (Independent R&D since 2013) | harperz9.github.io/findings/

- **Open Empirical Science & AI Accountability:** Published 30 reproducible empirical studies across 13 disciplines (13 Zenodo DOIs) and 159 public open-source repositories (including bio-research and crypto-margins), deliberately publishing 12 null results alongside Who Knew First across nine AI-agent disclosure incidents.
- **Civic Archival & Verifiable Audit Infrastructure:** Built CMMNS (cross-browser local-first provenance and web-archival tool, 1,735 tests, no user accounts required) and Flywheel's Three-Plate verification standard (115/115 planted-defect recall, cryptographic SHA-256 receipts).
- **Accessible Public Documentation & Upstream Collaboration:** Shipped automated data-driven accessibility descriptions across 148/148 public research charts and contributed 41 merged pull requests across 34 external open-source projects including Free Law Project (#820).

Earlier Public-Contact Support, Credentials & Education

Technical Networking Support Specialist | Xbox / Microsoft Contract (2014 - 2015) | Credentials & Education

- **Service & Credentials:** High-volume public troubleshooting (Wilsonville, OR); 4 Microsoft Applied Skills (Secure AI, Entra, DevOps), 6 Qualys Specialist certs, Cisco Ethical Hacker (100%), BlueDot AGI Strategy; High School Diploma (Wilsonville HS, 2013).