

Zain Dana Harper

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Technical Support | Developer Operations | Quality Assurance

Professional Summary

Systems engineer who turns reported failures into reproducible tests, usable fixes, and clear customer guidance. Combines independently shipped software and accepted upstream contributions with Xbox networking support and eleven years of client-facing field operations.

Technical Skills

Python, SQL, Git, GitHub Actions, pytest, Linux, Windows, HTTP/JSON APIs, WebSocket, TCP/IP, DNS, NAT; issue reproduction, regression testing, release packaging, technical documentation.

Professional Experience

Independent Systems Engineer | Independent practice | 2023 to Present

- Built Flywheel, a Python/Flutter AI workstation with Rowan task orchestration, model routing, and permission-checked tools; shipped a Windows installer with a bundled engine for installation without a separate Python setup.
- Designed offline verification and 324 exhaustive terminal-state fixtures so teams can distinguish incorrect outputs from provider failures rather than rely on an agent's success claim.
- Built Articulate writing tools and Accountable Surface approval and verification interfaces; supplied inspectable reports and action records for troubleshooting and review.

Arboriculture and Field Operations | Legendary Tree

Seattle area | April 25, 2015 to June 2, 2026

- Turned site assessments into estimates, proposals, and workable job scopes; coordinated clients, crews, and vendors so teams understood access constraints, timing, and hazards.

Technical Networking Support | Stream/Convergys | 2014 to 2015

Xbox/Microsoft product contract | Wilsonville, Oregon

- Diagnosed Xbox connectivity problems across TCP/IP, DNS, NAT, firewalls, and routers; guided customers through resolutions and documented steps for consistent support handoffs.

Freelance Technical Writer | Independent projects | Began 2017

- Wrote implementation guides, API documentation, and release notes that translated technical changes into usable instructions for developers and customers.

Selected Open-Source Contributions

- Free Law Project #820: documented runnable database-free tests, giving contributors a focused check path without starting the full database-backed stack. Merged.
- Hebbian Robotics #157: added schema-drift coverage that flags mismatches between queryable episode columns and reserved names before incompatible changes go unnoticed. Merged.
- Voxwire #44: added offline WebSocket recording/replay tests, verifying saved audio and events without live provider dependencies. Merged.

Education

High School Diploma | Wilsonville High School, Oregon | 2013