

Esther Jang, PhD

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About Me: I'm a software engineer, researcher, and program manager with 12+ years of experience building and leading complex, cross-functional technology programs. As founder of Seattle Community Network, I have managed large-scale technical deployments, shaped roadmaps, and built strong relationships across government and academic partners. My PhD and postdoc have featured data-driven AI applications and decentralized resilient network architectures. I bring organizational rigor and a bias toward action, building systems and processes from the ground up.

Experience

Seattle Community Network (SCN), Founder & Director Seattle, WA | Nov 2019-Present

- Lead network architect and project manager for a production LTE and Wi-Fi network serving shelters and low-income housing (200–300 users, 20+ rotating volunteers, 12+ sites).
- Responsible for technical roadmap, configuration management and upgrades, incident response.
 - Programming Languages & Infrastructure-as-Code: Python, Bash, JavaScript/Node.js, C++, SQL; Ansible, Terraform, Kubernetes, YAML; Git/GitHub
 - Platform & Deployments: Kubernetes, Docker, Linux; AWS & Azure cloud
 - Networking & Systems: LTE/Wi-Fi; router configuration (Juniper, Calix, Mikrotik, Ubiquiti); site survey and RF/backhaul planning; GNS3; NetBox; performance testing and monitoring
- Interface with external stakeholders (city IT departments, nonprofits, shelters)

U. of Washington, PhD & Postdoctoral Researcher Seattle, WA | Oct 2016 – Present

- UX Research & Design: Used human-centered co-design methods for multiple community projects
- Machine Learning & AI: Used Python for (1) deep learning of sidewalk accessibility features and (2) a LLM-based Personally Identifiable Information (PII) redactor for organizational chat
- Statistical analysis of usage data from Tukwila School District LTE broadband network
- Network & Software Deployments: Designed and developed a resilience app in Flutter/Dart; deployed disaster-resilient connectivity in Westport and Seattle with LTE, ham radio, and wireless mesh; deployed 2G and 4G networks in rural remote areas (Peru, Mexico, Argentina, Philippines)
- Mentored students, volunteers, and partner organizations

Community Networks Consulting, Advocacy, Volunteering USA | Jan 2019-Present

- **Tribal Broadband Bootcamp, Lead Instructor | Jun 2021-Present**
 - Hands-on labs and instruction on wireless and fiber network deployment and operations
- **Connect Across Tacoma, Lead Curriculum Developer | Jul 2023-Dec 2024**
 - Designed labs, materials, and assignments for network deployment and operations
- **DWeb Camp, Mesh Network Lead | Mar 2022-Aug 2024**
 - Led design and deployment of mesh WiFi for a 500-600 attendee multi-day conference
- **NYC Mesh, Volunteer Install Lead** – 20+ rooftop deployments and repairs

Milliman, Inc., Machine Learning Intern Cambridge, MA | Jul 2014 – Dec 2014

- Implemented explainable machine learning algorithms in Python for actuarial models- PCA & random forests for feature detection, classification, and explainability

Education

- Jun 2024: University of Washington – PhD, Computer Networks
- Jun 2016: MIT – M.Eng, Networks & Communications
- Jun 2014: MIT – B.Sc, Electrical Engineering & Computer Science, GPA 4.7 / 5.0
- Certifications: CBRS CPI, FOA CFOT, Mikrotik MTCNA & MTCRE