

Esther Jang

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EDUCATION

UW

PHD IN NETWORKS

ADVISED BY

DR. KURTIS HEIMERL

Jun 2024 | Seattle, WA

MIT

MENG IN NETWORKS &
COMMUNICATIONS

ADVISED BY

DR. VINCENT CHAN

Jun 2016 | Cambridge, MA

BSC IN ELECTRICAL
ENGINEERING & COMPUTER
SCIENCE

May 2014 | Cambridge, MA

GPA: 4.7 / 5.0

SAT: 2400

COURSEWORK

Computer Networks
Computer Systems
Distributed Systems
Heterogeneous Networks
Machine Learning
Natural Language Processing
Inference and Information
Signals & Systems
Digital Communications Systems
Human-Computer Interaction
ICTD (Information and
Communication Technology for
Development)

SKILLS

TECHNICAL

Networking • Python • NodeJS •
Javascript • HTML • CSS • SQL •
C++ • R • Bash • Linux • Docker •
Ansible • Terraform • Kubernetes

TEACHING

UW CSE580 CS for Social Good

UW CSE461 Comp. Networks

MIT 6.036 Machine Learning

SPOKEN LANGUAGES

English (native) • Korean (heritage)
• Spanish (conversational) • Swahili
(conversational) • Tagalog
(beginner) • Mandarin (beginner)

RESEARCH INTERESTS

Network & Internet infrastructure • community technology • open source • action re-
search • digital equity • participatory methods • computing pedagogy

PUBLICATIONS

CHI '26

'In a Pinch, If You Have Nothing': An Exploration of Money-
Making Apps in Homeless Shelters *Jang & Ardeni et al.*

CSCW '25

Participatory Design of IoT in Self-Managed Tiny House
Villages *Jang, Choden, Young, Webster, Slager, Webb, Heimerl*

SIGCOMM '23

Stories from the Field (of Networking): Lessons from Deploy-
ing Research Systems in the Real World *Heimerl, Jang, Obi*

CSCW '22

Situating Network Infrastructure with People, Practices, and
Beyond: A Community Building Workshop *Jang, Bidwell, Liu*

IMC '20

Accept the Risk and Continue: Measuring the Long Tail of
Government [https](https://) Adoption *Singanamalla, Jang, Heimerl*

CSCW '20

Network Capacity as Common Pool Resource: Community-
Based Congestion Management in a CN *Johnson & Jang, et al.*

CSCW '20

"The Network as an Excuse": Hardware Maintenance
Supporting Community *Garrison, Jang, Pace, Lithgow*

CSCW '19

Trust and Technology Repair Infrastructures in the Remote
Rural Philippines *Jang & Garrison, et al.*

ASSETS '19

Deep Learning for Automatically Detecting Sidewalk Access-
ibility Problems Using Streetscape Imagery *Weld & Jang, et al.*

HOTNETS '18

dLTE: Building a more WiFi-like Cellular Network (Instead of
the Other Way Around) *Johnson, Sevilla, Jang, Heimerl*

CHI '18

Crowdsourcing Rural Network Maintenance & Repair via
Network Messaging *Jang & Barela et al.*

LIMITS '17

Unplanned Obsolescence: Hardware and Software After
Collapse *Jang, Johnson, Burnell, Heimerl*

ICTON '17

Cognitive all-optical fiber network architecture *Chan, Jang*

AWARDS

2023 Benton Opportunity Fund Fellow

2022 IEEE Connecting the Unconnected

2020 Intel SWE Graduate Fellow

2019 ASSETS 2019 Best Student Paper Award

2019 CSCW 2019 Diversity and Inclusion Award

2019 UW SWE Outstanding Female Engineer Award

2018 Mozilla/NSF-WINS Smart CNs Challenge Honorable Mention

2015 MIT Assistive Technology Hackathon, 1st place

2014 Siebel Scholarship for academic excellence and leadership

2014 IEEE Communications Society Student Competition, 2nd place

2012 MIT Public Service Center & Baker Memorial Fellow

RESEARCH PROJECTS

UW PAUL G. ALLEN SCHOOL OF COMPUTER SCIENCE AND ENGINEERING | POSTDOC '24 - PRESENT

(PhD & Postdoc) Jun 2019 – Present | Seattle, WA

Seattle Community Network. Leads design, deployment, and organizing of urban community networks for low-income and unhoused residents. Supported by the **Internet Society**, King County, and Seattle IT.

(PhD) Aug 2019 – Present | Iquitos, Peru

Deployment planning for community LTE networks in Maijuna indigenous communities along the Napo River. In collaboration with the **Pontificia Universidad Católica del Perú Grupo de Telecomunicaciones Rurales** and **Facebook**.

(PhD) Jan 2019 – Present | Oaxaca, Mexico and Quintana, Argentina

Qualitative field study of community network management structures and sustainability for cellular and wireless mesh networks in rural villages. Development of community network toolkit for practitioners. In collaboration with **AlterMundi**.

(PhD) Sept 2016 – Dec 2018 | Aurora, Philippines

Participatory design of phone-based repair tools for rural community cellular networks. Deployment of 2G cell networks for RCT impact evaluation of communications infrastructure. In collaboration with the **University of the Philippines** and **UC Berkeley**.

MIT RESEARCH LABORATORY FOR ELECTRONICS (RLE) | MASTER'S

Jan 2015 – Jun 2016 | Cambridge, MA

Design of a delay-minimal cognitive routing algorithm with traffic estimation for metropolitan area wireless sensor networks.

OTHER WORK

LOCAL CONNECTIVITY LAB (LCL) | FOUNDER AND DIRECTOR

Oct 2019 - Present | Seattle, WA

Founder and Director on the Board at LCL, a 501(c)(3) non-profit with a mission to facilitate community technology development and research in support of low-income and marginalized groups. Supports the *Seattle Community Network* project.

TRIBAL BROADBAND BOOTCAMP (TBB) | LEAD TECHNOLOGY INSTRUCTOR

Jul 2019 - Present | USA

Hands-on wireless and fiber networking instructor and workshop organizer. Curriculum development, planning, teaching.

CONNECT ACROSS TACOMA (UW TACOMA & BBR) | CURRICULUM DEVELOPER

Jul 2023 - Dec 2025 | Tacoma, WA

Curriculum and teaching for hands-on community networking course (up to 140 students over 2 years) funded by NTIA CMC.

PERSONAL PROJECTS

NYC MESH | VOLUNTEER INSTALL LEAD

Dec 2019 - Jan 2020 | New York City, NY

Led installations of internet connections on members' roofs, including configuration, mounting, and team coordination.

DECENTRALIZED WEB CAMP | MESH NETWORK LEAD ORGANIZER

Aug 2022 - Aug 2024 | San Francisco, CA

Led Dweb Mesh Network implementation and teaching activities at Dweb Camp conference in Navarro, CA.

MIT ASSISTIVE TECH HACKATHON | 1ST PLACE & MIT LEAP GRANT

Feb 2015 – Jun 2016 | Cambridge, MA

Co-designed and prototyped a portable sip-n'-puff bluetooth joystick mouse for people without use of their hands.

MIT PUBLIC SERVICE CENTER (PSC) | FELLOWSHIP

Oct 2011 – Aug 2012, Jan 2014 | Cambridge, MA & Arusha, Tanzania

Deployed a system for affordable Internet access at Orkeeswa Secondary School in rural Tanzania (still in use today).

SELECTED PRESS

SCN Featured at NANOG <https://tinyurl.com/scn-nanog-23>

FastCompany article on LIMITS publication <https://bit.ly/3aoAJZU>

Feb 2020–KUOW radio segment on LIMITS publication <https://www.kuow.org/stories/which-face-is-real>