

Jenny T. Liang

Software Engineering Researcher

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Education

2021 - 2027 **Carnegie Mellon University**, Pittsburgh, Pennsylvania
Ph.D. in software engineering

2015 - 2021 **University of Washington**, Seattle, Washington
B.S. in computer science & informatics (GPA: 3.77)
UW Academy Scholar (*UW early entrance at 16 years old*)

Research Experience

Jul 2021 - Present **Allen Institute of AI (AI2)**, Mosaic Team
Predoctoral Young Investigator, advised by Ronan Le Bras and Yejin Choi

Project: Multicultural social norm dataset. (lead)

- Investigate methods for collecting annotations on social norms from a culturally diverse set of annotators.

Project: Modeling social norms and morality.

- Build a [demo](#) for Delphi, a model which generates inferences on moral situations.
- Investigate the diversity of Commonsense Normbank, the dataset the Delphi model was trained on.

Apr 2021 - Jul 2021 **Microsoft Research**, Software Analysis and Intelligence (SAINTES) Group
Research intern, advised by Danae Ford Robinson and Thomas Zimmermann

Project: Understanding skills for OSS communities. (lead)

- Develop a model of skills in OSS and research how OSS contributors develop and share their OSS skills.

Project: Detecting skills for OSS contributors. (lead)

- Prototype and evaluate a novel technology that automatically detects contributor skills based on GitHub data.

Jan 2020 - Present **University of Washington**, Information School, Code & Cognition Lab
Research assistant, advised by Amy J. Ko

Project: Software design knowledge at the implementation level. (lead)

- Investigate the activities, considerations, and strategies when developers engage in software design at the implementation level.

Project: Explicit programming strategies sharing platform.

- Research how sharing and collaborating on explicit programming strategies impacts developers' problem-solving abilities.

Jun 2020 - Apr 2021 **Allen Institute of AI (AI2)**, Mosaic Team
Research intern, co-advised by Swabha Swayamdipta, Chandra Bhagavatula, and Yejin Choi

Project: Interpreting social bias classifiers.

- Research why social bias classifiers classify certain text as toxic using interpretability methods.

Project: Visual COMeT

- Build a [demo](#) for a model to generate inferences on what agents will do in an image.

Jan 2019 -
Jun 2020

University of Washington, Computer Science & Engineering, ICTD Lab
Research assistant, co-advised by Spencer Sevilla and Kurtis Heimerl

Project: Community LTE.

- Research community-maintained LTE networks for rural populations in the developing world.

Publications

* denotes equal contribution

- 2021 *Understanding Skills for OSS Communities*. **Jenny Liang**, Thomas Zimmermann, Denae Robinson. In progress.
- 2021 *Towards Mining OSS Skills from GitHub Activity*. **Jenny Liang**, Thomas Zimmermann, Denae Robinson. *International Conference on Software Engineering: New Ideas and Emerging Results (ICSE NIER) 2022*. To appear. (26.8% acceptance rate)
- 2021 *An Exploratory Study of Sharing Strategic Programming Knowledge*. Maryam Arab, Thomas D. LaToza, **Jenny Liang**, Amy J. Ko. *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI) 2022*. To appear. (12% acceptance rate)
- 2021 *Delphi: Towards Machine Ethics and Norms*. Liwei Jiang, Jena D. Hwang, Chandra Bhagavatula, Ronan Le Bras, Maxwell Forbes, Jon Borchardt, **Jenny Liang**, Oren Etzioni, Maarten Sap, Yejin Choi. [arXiv preprint arXiv:2110.07574](#).
- 2021 *HowToo: A Platform for Sharing, Finding, and Using Programming Strategies*. Maryam Arab, **Jenny Liang***, Yang Kyu Yoo*, Amy Ko, Thomas LaToza. *Visual Languages and Human-Centric Computing (VL/HCC) 2021*. (29.5% acceptance rate)
- 2021 *Whale Watching in Inland Indonesia: Analyzing a Small, Remote, Internet-Based Community Cellular Network*. Matthew Johnson, **Jenny Liang**, Michelle Lin, Sudheesh Singanamalla, Kurtis Heimerl. *The Web Conference (WWW) 2021*.
- 2019 *Experiences: Design, Implementation, and Deployment of CoLTE, a Community LTE Solution*. Spencer Sevilla, Matthew Johnson, Pathirat Kosakanchit, **Jenny Liang**, Kurtis Heimerl. *ACM Mobicom 2019*. (18.9% acceptance rate)
- 2019 *An All-in-One Community LTE Network*. Spencer Sevilla, Matthew Johnson, Pathirat Kosakanchit, **Jenny Liang**, Kurtis Heimerl. *ACM Mobicom 2019*. (Demo)

Presentations

- Sep 2021 **Understanding Skills for OSS Communities** (Talk)
Microsoft Research.
- May 2021 **Interpreting Hate Speech Classifiers: Does dataset label space matter?** (Talk)
UW Undergraduate Research Symposium.
- May 2020 **Explicit Programming Strategies** (Talk)
UW Undergraduate Research Symposium.

Oct 2019 **CoLTE, An All-in-One Community LTE Network (Demo)**
Mobicom 2019, Los Cabos, Mexico.

Honors, Recognitions & Scholarships

- 2021 **National Science Foundation Graduate Research Fellow**
- 2020 **Computing Research Association Outstanding Undergraduate Researcher Honorable Mention**
Award to recognize undergraduate students in North America who show outstanding research potential in an area of computing research.
- 2020 **[UW Computer Science & Engineering Undergraduate Service Award](#)**
Award to recognize outstanding graduating seniors who consistently contributed to the department.
- 2020 **[Husky 100](#)**
Award to recognize 100 UW outstanding students in honor of their contributions to the university.
- 2019 **[Allen Institute of Artificial Intelligence Outstanding Engineer](#)**
Scholarship awarded to an individual based on software engineering merit.
- 2019 **UW CSE SIGCSE Scholarship**
Competitive travel grant to the SIGCSE conference on computer science education by the UW computer science department.
- 2019 **Denice Dee Denton Scholarship**
Departmental scholarship for students who show a commitment to a diverse student population.
- 2019 **UW CSE Grace Hopper Scholarship**
Competitive travel grant to the Grace Hopper Conference by the UW computer science department.

Industry Experience

- Oct 2019 -
Dec 2019 **Uber, Developer Experience | Seattle, WA**
Software engineer intern
Built metrics collection pipeline for Uber's Go Monorepo CI/CD pipeline.
- Jun 2019 -
Dec 2019 **Apple, Mail | Cupertino, CA**
Software engineer intern
Built full-stack features for Apple Mail on MacOS and iOS using the Apple development ecosystem.
- Mar 2019 -
Jun 2019 **Microsoft, Personal Bing | Bellevue, WA**
Software engineer intern
Independent study on anomaly detection system for time-series data. Built microservice to localize components of a distributed notifications platform, improving queries per second by 100%.
- Jun 2018 -
Sep 2018 **Microsoft, Exchange Enterprise Cloud | Redmond, WA**
Software engineer intern
Built console application to intelligently batch mailboxes for mailbox migrations.
- Jun 2017 -
Sep 2017 **Microsoft, Workplace Analytics | Redmond, WA**
Software engineer intern
Built C# to USQL translator for nested queries, joins, aggregate functions, and in-line queries.

Jun 2016 - **Microsoft, Office 365 | Redmond, WA**
Aug 2016 *Intern*
Developed a web app to enable registration and applications for an internship program.

Teaching Assistantships

Mar 2020 - **Building Academic Success through Bottom-Up Computing (Intro. to Computer Systems)**
Jun 2020 Professor: Dan Grossman

Sep 2019 - **Software Design & Implementation**
Mar 2020 Professors: Dan Grossman, Hal Perkins

Mar 2018 - **Accelerated Introduction to Programming, Introduction to Programming II**
Jun 2019 Professors: Stuart Reges, Hunter Schafer

Volunteer Experience

Sep 2020 - **Undergraduate Research Program, University of Washington**
June 2021 *Undergraduate Research Leader*
Conduct research outreach activities and share research experiences with other undergraduates.

Sep 2018 - **Student Advisory Council, Computer Science & Engineering**
Jun 2021 *Director of Wellness (2018), Vice Chair (2019), General Member (2020)*
Lead a team of students to direct initiatives to support students in the computer science department.

Example projects:

- Direct school-wide initiative to provide computer science students with disabilities with course staff during exams.
- Raise \$3,000 in a fundraiser for Seattle black-led organization to address healthcare inequities.

Jan 2020 - **Classy**
Jun 2020 *Developer Lead*
Led a team of developers to build a [web application](#) for a University of Washington class-rating website.

Sep 2018 - **HuskyTech**
Jun 2019 *Developer Lead*
Led a team of developers to build software tools and systems for HuskyTech operations.

Sep 2017 - **TEDxUofW**
May 2019 *Developer Lead*
Led two teams of developers to build a conference website and software tools and systems for TEDxUofW operations.