Amber Horvath

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Education

2018 – 2024	**Ph.D. in Human-Computer Interaction**, Carnegie Mellon University *Thesis title*: Meta-Information to Support Sensemaking by Developers. *Advisor*: Brad A. Myers *Committee*: Laura Dabbish, Elena Glassman, Aniket Kittur, Andrew Macvean
2018 – 2021	**M.Sc. in Human-Computer Interaction**, Carnegie Mellon University
2013 – 2018	**B.Sc. Computer Science**, Oregon State University

Professional Experience

2024 – present	**MIT CSAIL**, METEOR Post-Doctoral Fellow *with David Karger and Arvind Satyanarayan*
2018 – 2024	**Carnegie Mellon University**, Research Assistant *with Brad A. Myers* Understanding discovery, comprehension, and usage of APIs [8, 18, 10]; Using annotations to support developer sensemaking [6, 7]; Using meta-information for developer documentation [5]; Automatic capture and exploration of developer meta-information [4].
2019	**Google**, Research Intern *with Emerson Murphy-Hill* Exploring gender equity in completion of code reviews [1].
2017	**Intel**, User-Experience Intern
2012 – 2017	**Oregon State University**, Undergraduate Researcher *with Margaret Burnett* Creation and usage of GenderMag, a method for discovering inclusivity bugs [2, 11, 13]; Development of Idea Garden, an end-user development tool [3, 14, 16]; Understanding developer debugging behaviors using information foraging theory [15].
2016	**Carnegie Mellon University**, Undergraduate Researcher *with Brad A. Myers and Mary Beth Kery* Tooling for data scientists to support lightweight versioning of code [12].
2015	**Hewlett-Packard Inc.**, User-Experience Intern

Research Publications

Journal Articles

1. Emerson Murphy-Hill, Jillian Dicker, **Amber Horvath**, Maggie Morrow Hodges, Carolyn D. Egelman, Laurie R. Weingart, Ciera Jaspan, Collin Green, and Nina Chen. "Systemic Gender Inequities in Who Reviews Code". In: *Proc. ACM Hum.-Comput. Interact.* 7.CSCW1 (Apr. 2023). 🏵 *Diversity and Inclusion Award*. 🔗 DOI: 10.1145/3579527.

2. Hema Susmita Padala, Christopher Mendez, Felipe Fronchetti, Igor Steinmacher, Zoe Steine-Hanson, Claudia Hilderbrand, **Amber Horvath**, Charles Hill, Logan Simpson, Margaret Burnett, Marco Gerosa, and Anita Sarma. "How Gender-Biased Tools Shape Newcomer Experiences in OSS Projects". In: *IEEE Transactions on Software Engineering* 48.1 (2022), pp. 241–259. 🔗 DOI: 10.1109/TSE.2020.2984173.

3   William Jernigan, **Amber Horvath**, Michael Lee, Margaret Burnett, Taylor Cuilty, Sandeep Kuttal, Anicia Peters, Irwin Kwan, Faezeh Bahmani, Amy Ko, Christopher J. Mendez, and Alannah Oleson. "General principles for a Generalized Idea GardenImage 1". In: *Journal of Visual Languages Computing* 39 (2017). Special Issue on Programming and Modelling Tools, pp. 51–65. ISSN: 1045-926X. 🔗 DOI: `https://doi.org/10.1016/j.jvlc.2017.04.005`.

Conference Proceedings

4   **Amber Horvath**, Andrew Macvean, and Brad A. Myers. "Meta-Manager: A Tool for Collecting and Exploring Meta Information about Code". In: *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA*. CHI '24. Honolulu, HI, USA: Association for Computing Machinery, 2024. 🔗 DOI: `10.1145/3613904.3642676`.

5   **Amber Horvath**, Andrew Macvean, and Brad A. Myers. "Support for Long-Form Documentation Authoring and Maintenance". In: *2023 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*. 2023, pp. 109–114. 🔗 DOI: `10.1109/VL-HCC57772.2023.00020`.

6   **Amber Horvath**, Michael Xieyang Liu, River Hendriksen, Connor Shannon, Emma Paterson, Kazi Jawad, Andrew Macvean, and Brad A. Myers. "Understanding How Programmers Can Use Annotations on Documentation". In: *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*. CHI '22. New Orleans, LA, USA: Association for Computing Machinery, 2022. 🔗 DOI: `10.1145/3491102.3502095`.

7   **Amber Horvath**, Brad Myers, Andrew Macvean, and Imtiaz Rahman. "Using Annotations for Sensemaking About Code". In: *Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology*. UIST '22. Bend, OR, USA: Association for Computing Machinery, 2022. ISBN: 9781450393201. 🔗 DOI: `10.1145/3526113.3545667`.

8   **Amber Horvath**, Sachin Grover, Sihan Dong, Emily Zhou, Finn Voichick, Mary Beth Kery, Shwetha Shinju, Daye Nam, Mariann Nagy, and Brad Myers. "The Long Tail: Understanding the Discoverability of API Functionality". In: *VLHCC 2019*. New York, NY, USA: IEEE, 2019, pp. 157–161. 🔗 DOI: `10.1109/VLHCC.2019.8818681`.

9   Mary Beth Kery, Bonnie E. John, Patrick O'Flaherty, **Amber Horvath**, and Brad A. Myers. "Towards Effective Foraging by Data Scientists to Find Past Analysis Choices". In: *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. CHI '19. Glasgow, Scotland Uk: Association for Computing Machinery, 2019, pp. 1–13. ISBN: 9781450359702. 🔗 DOI: `10.1145/3290605.3300322`.

10   Daye Nam, **Amber Horvath**, Andrew Macvean, Brad Myers, and Bogdan Vasilescu. "MARBLE: Mining for Boilerplate Code to Identify API Usability Problems". In: *2019 34th IEEE/ACM International Conference on Automated Software Engineering (ASE)*. 2019, pp. 615–627. 🔗 DOI: `10.1109/ASE.2019.00063`.

11   Christopher Mendez, Hema Susmita Padala, Zoe Steine-Hanson, Claudia Hilderbrand, **Amber Horvath**, Charles Hill, Logan Simpson, Nupoor Patil, Anita Sarma, and Margaret Burnett. "Open Source Barriers to Entry, Revisited: A Sociotechnical Perspective". In: *Proceedings of the 40th International Conference on Software Engineering*. ICSE '18. Gothenburg, Sweden: Association for Computing Machinery, 2018, pp. 1004–1015. ISBN: 9781450356381. 🔗 DOI: `10.1145/3180155.3180241`.

12   Mary Beth Kery, **Amber Horvath**, and Brad Myers. "Variolite: Supporting Exploratory Programming by Data Scientists". In: *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. CHI '17. 🎗 *Best Paper Honorable Mention*. Denver, Colorado, USA: Association for Computing Machinery, 2017, pp. 1265–1276. ISBN: 9781450346559. 🔗 DOI: `10.1145/3025453.3025626`.

13   Charles Hill, Shannon Ernst, Alannah Oleson, **Amber Horvath**, and Margaret Burnett. "GenderMag experiences in the field: The whole, the parts, and the workload". In: *2016 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*. 2016, pp. 199–207. 🔗 DOI: `10.1109/VLHCC.2016.7739685`.

14 Will Jernigan, **Amber Horvath**, Michael Lee, Margaret Burnett, Taylor Cuilty, Sandeep Kuttal, Anicia Peters, Irwin Kwan, Faezeh Bahmani, and Amy Ko. "A principled evaluation for a principled idea garden". In: *2015 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*. 2015, pp. 235–243. 🔗 DOI: 10.1109/VLHCC.2015.7357222.

15 David Piorkowski, Scott D. Fleming, Christopher Scaffidi, Margaret Burnett, Irwin Kwan, Austin Z. Henley, Jamie Macbeth, Charles Hill, and **Amber Horvath**. "To fix or to learn? How production bias affects developers' information foraging during debugging". In: *2015 IEEE International Conference on Software Maintenance and Evolution (ICSME)*. 2015, pp. 11–20. 🔗 DOI: 10.1109/ICSM.2015.7332447.

16 Michael J. Lee, Faezeh Bahmani, Irwin Kwan, Jilian LaFerte, Polina Charters, **Amber Horvath**, Fanny Luor, Jill Cao, Catherine Law, Michael Beswetherick, Sheridan Long, Margaret Burnett, and Amy J. Ko. "Principles of a debugging-first puzzle game for computing education". In: *2014 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*. 2014, pp. 57–64. 🔗 DOI: 10.1109/VLHCC.2014.6883023.

17 Jill Cao, Irwin Kwan, Faezeh Bahmani, Margaret Burnett, Scott D. Fleming, Josh Jordahl, **Amber Horvath**, and Sherry Yang. "End-user programmers in trouble: Can the Idea Garden help them to help themselves?" In: *2013 IEEE Symposium on Visual Languages and Human Centric Computing*. 2013, pp. 151–158. 🔗 DOI: 10.1109/VLHCC.2013.6645260.

Posters, Extended Abstracts, Workshop Papers, and Technical Reports

18 **Amber Horvath**, Mariann Nagy, Finn Voichick, Mary Beth Kery, and Brad A. Myers. *Methods for Investigating Mental Models for Learners of APIs*. CHI EA '19. Glasgow, Scotland Uk, 2019. 🔗 DOI: 10.1145/3290607.3312897.

Awards and Honors

2023	**Diversity and Inclusion Award**, from Proceedings of the ACM on Human-Computer Interaction (CSCW '23) for our paper "Systemic Gender Inequities in Who Reviews Code" [1].
2018 – 2021	**ARCS Fellowship**. Awarded by the ARCS Foundation.
2017	**Best Paper Honorable Mention**, from Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17) for our paper "Variolite: Supporting exploratory programming by data scientists" [12].
2015 – 2017	**CBT Nuggets Scholarship**. Awarded by CBT Nuggets for excellence in engineering.
2015	**Honorable Mention Undergraduate Researcher of the Year**. Awarded by Oregon State University.
2013 – 2015	**College of Engineering Dean's Scholarship**. Awarded by Oregon State University.
2013	**Aspirations in Computing Award**. Awarded by National Center for Women in Information Technology.

Teaching Experience

2022	**05-410 & 05-610, User-Centered Research & Evaluation** Human-Computer Interaction Institute, Carnegie Mellon University. Mixed undergraduate-and-graduate-level course. Taught and designed weekly labs.

Teaching Experience (continued)

2020	**05-430 & 05-630, Programming Usable Interfaces** Human-Computer Interaction Institute, Carnegie Mellon University. Mixed undergraduate-and-graduate-level course. Taught and designed weekly labs remotely during the COVID19 pandemic.
2014 – 2018	**CS 160, 161, & 162, Introduction to Programming** School of Electrical Engineering and Computer Science, Oregon State University. Series of undergraduate courses for primarily freshman in computer science. Taught weekly recitations and managed labs.

Mentorship Experience

2022	**Shannon Bonet** (Undergraduate student from University of California, Berkeley) Developed more robust anchoring for the Catseye project. **Matthew Shu** (Undergraduate student from Yale University) Developed annotation curation methods for the Catseye project.
2021	**Connor Shannon** (CMU HCII'21 Master's student) Assisted in the engineering of the Adamite system along with data analysis in the Adamite user studies [6]. **Emma Paterson** (Undergraduate student from Harvey Mudd University) Assisted in the creation of an Adamite website along with data analysis in the Adamite user studies [6]. **Imtiaz Rahman** (Undergraduate student from Hunter College) Assisted in the initial development of Catseye [7]. **Kazi Jawad** (Undergraduate student from Carnegie Mellon University) Assisted in the initial development of the Adamite website [6].
2020	**Lai Wei** (CMU HCII'20 Master's student) Assisted in the user interface design of Adamite [6].

Professional Service

Community Service

2023 – 2019	**Reviewer and Review Coordinator**, CMU HCII summer REU (research experience for undergraduate) application reviewer and coordinator.
2022 – 2018	**Reviewer**, CMU S3D summer REU (research experience for undergraduate) application reviewer.
2022	**Speaker**, Apprenticeships in Science and Engineering (ASE) discussion about former intern success stories. **Speaker**, Oregon State University senior capstone discussion about post-undergraduate career paths. **Student Committee Member**, CMU HCII director search.
2021 – 2022	**Ombudsman**, with Samantha Reig.
2021	**Speaker**, Bit by Bit conference, an outreach event for high school girls to learn about computer science. **Application Reviewer**, for underrepresented students applying to graduate programs.
2020 – 2021	**Member**, CMU HCII anti-racism group.

Professional Service (continued)

2019 – 2020   **Student Participant**, Software Developer Diversity and Inclusion summit.

Paper Reviewing

ACM CHI	**2022-24 - 5 papers**, with an additional 1 paper in the PLAY track and 2 in the Late-Breaking Works track.
ACM UIST	**2021, 2023-24 - 4 papers**, with special recognition for an outstanding review for UIST 2021.
ESE	**2021 - 1 paper**.
ACM TOCE	**2020 - 1 paper**.

References

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