

EDUCATION

Ph.D, Human-Computer Interaction, **Carnegie Mellon University** 2018-pres
B.S., Computer Science Applied to Human-Computer Interaction, **Oregon State University** 2013-2018

EXPERIENCE

Graduate Researcher, **Carnegie Mellon University** Aug. 2018 - Present
Advised by Dr. Brad Myers

- Developed Adamite, an annotation tooling solution for software developers' learning challenges when utilizing API documentation and other online help resources
- Developed an interview and natural programming elicitation method to evaluate mental models users have for distributed data processing APIs and how users' mental models may impact user's understanding of API constructs
- Investigated users' discovery of API functionality through a lab study and data mining approach, found that users' prior experiences and programming styles impacted how they interacted with an API and thus how they learned about its features

Research Intern, **Google** May 2019 - Aug. 2019
Mentored by Emerson Murphy-Hill, Engineering Productivity Research Group

- Investigated the promotability of various tasks that software engineers perform at Google through a survey to gather the tasks, a card sorting activity to rank the tasks, and a log-based analysis with SQL and R to ascertain the impact of these tasks
- Found that code review and documentation are two of the most prevalent low promotability tasks that software engineers perform and that neither task is completed equitably across subpopulations of software engineers

User Experience (UX) Intern, **Intel Corp.** Jun. 2017 - Dec. 2017

- Assisted the lead UX designer and UX researchers in prototyping and testing an SDK for avid sports fans
- Designed wireframes and high-fidelity iOS prototypes for the mobile version of the sports fan SDK
- Conducted a series of semi-structured interviews to evaluate and inform future design and feature decisions for the SDK
- Designed high-fidelity iOS prototypes using Sketch
- Created a wiki for organizing and conveying information to a team of over 30 employees

Undergraduate Researcher, **Oregon State University** Jun. 2012 - Jun. 2017
Advised by Dr. Margaret Burnett

- Conducted and designed research studies to evaluate effectiveness of tools hosted within IDEs aimed at aiding end-user software developers
- Collaborated with researchers at University of Washington in developing a programming game called Gidget which is designed to teach programming skills to teens through debugging
- Helped lead four summer computing camps for teens for two summers
- Helped develop GenderMag - a usability method for evaluating inclusiveness of software design

Research experience for Undergraduates, Carnegie Mellon University Advised by Dr. Brad Myers	May 2016 - Sep. 2016
<ul style="list-style-type: none"> - Developed a light-weight versioning tool aimed at data scientists for the Atom text editor, written in Coffeescript - Conducted a series of semi-structured interviews with data scientists to understand software development habits and patterns and found that data scientists versioning needs were markedly different from typical software engineers, informing the design of our light-weight versioning tool - Designed an interaction style for the tool based off qualitative interview data 	
User Experience (UX) Intern, Hewlett-Packard Inc.	Aug. 2015 - Sep. 2015
<ul style="list-style-type: none"> - Designed wireframes through paper prototyping for an Android mobile application - Assisted in implementation of the prototyped designs 	
Apprenticeships in Science & Engineering co-mentor, Saturday Academy	Jun. 2014 - Aug. 2014
<ul style="list-style-type: none"> - Mentored high school students in human-computer interaction studies - Created tasks for the students to help further research studies - Assigned tasks and responsibilities to students 	
Introductory CS Teaching Assistant and Tutor, Oregon State University	Sep. 2014 - Jun. 2018
<ul style="list-style-type: none"> - Managed weekly lab sections - Taught recitation sessions about beginner programming concepts - Graded assignments in one-on-one demo sessions with students - Resolved questions in weekly office hours 	

HONORS/AWARDS

Awarded , ARCS Fellowship	August 2018 - present
Honor Roll , Oregon State University	2013/2014, 2016-2018
Awarded , Best Paper Honorable Mention at CHI 2017	May 2017
Awarded , CBT Nuggets scholarship	July 2015 - July 2017
Awarded , Honorable Mention Undergraduate Researcher of the Year	May 2015
Awarded , College of Engineering Dean's Scholarship	2013/2014
Presented , SRC TECHCON 2014	Sept. 2014
Awarded , National Center for Women in Information Technology Aspirations	Feb. 2013

SKILLS

- User Experience Design creation and evaluation methodology, qualitative coding and statistical analyses
- C, C++, Python, R, PHP, SQL, Javascript/Coffeescript, React.js, HTML/CSS, Google Cloud Services including Firestore, Chrome Extension development, embedded programming on AVR architecture
- Mathematics - Differential/Integral/Vector Calculus, Discrete Mathematics, Power Series
- Adobe Photoshop, Adobe Illustrator, Figma, Balsamiq, Sketch, Principle, Microsoft Office

PUBLICATIONS

- **Amber Horvath**, Michael Xieyang Liu, River Hendriksen, Andrew Macvean, Lai Wei, Brad A. Myers. 2021. Augmenting Software Documentation through Crowd-sourcing Annotations with ADAMITE. In submission.
- Daye Nam, **Amber Horvath**, Andrew Macvean, Brad Myers, and Bogdan Vascileau. 2019. MARBLE: Mining for Boilerplate Code to Identify API Usability Problems. In *International Conference on Automated Software Engineering (ASE)*, San Diego, CA, pp. 615-627.
- **Amber Horvath**, Sachin Grover, Sihan Dong, Emily Zhou, Finn Voichick, Mary Beth Kery, Shwetha Shinju, Daye Nam, Mariann Nagy, and Brad A. Myers. 2019. The Long Tail: Understanding the Discoverability of API Functionality. In *Visual Languages and Human-Centric Computing (VL/HCC)*, Memphis, Tennessee, pp. 157-161.
- **Amber Horvath**, Mariann Nagy, Finn Voichick, Mary Beth Kery, and Brad A. Myers. 2019. Methods for Investigating Mental Models for Learners of APIs. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts*, 6 pages, Paper No. LBW0158.
- Mary Beth Kery, Bonnie E. John, Patrick O'Flaherty, **Amber Horvath**, and Brad A. Myers. 2019. Towards Effective Foraging by Data Scientists to Find Past Analysis Choices. In *Proceedings of CHI Conference on Human Factors in Computing Systems*, 13 pages, Paper No. 92.
- Christopher Mendez, Zoe Steine-Hanson, Alannah Oleson, **Amber Horvath**, Charles Hill, Claudia Hilderbrand, Anita Sarma, and Margaret Burnett. 2018. Semi-Automating (or not) a Socio-Technical Method for Socio-Technical Systems. In *Visual Languages and Human-Centric Computing (VL/HCC)*, 10 pages.
- Christopher J Mendez, Hema Susmita Pedala, Zoe Steine-Hanson, Claudia Hilderbrand, **Amber Horvath**, Charles Hill, Logan Simpson, Nupoor Patil, Anita Sarma, and Margaret Burnett. 2018. Open Source barriers to entry, revisited: a tool's perspective. In *Proceedings of the 40th International Conference on Software Engineering (ICSE)*, pages 1004-1015.
- Mary Beth Kery, **Amber Horvath**, and Brad Myers. 2017. Variolite: Supporting Exploratory Programming by Data Scientists. In *Proceedings of CHI Conference on Human Factors in Computing Systems*, pages 1265-1276, awarded "Best Paper Honorable Mention".
- Will Jernigan, **Amber Horvath**, Michael Lee, Margaret Burnett, Taylor Cuiilty, Sandeep Kuttal, Anicia Peters, Irwin Kwan, Faezeh Bahmani, Amy Ko, Christopher J Mendez, and Alannah Oleson. 2017. General Principles for a Generalized Idea Garden. *Journal of Visual Languages & Computing*, vol 39, pages 51-65.
- Charles Hill, Shannon Ernst, Alannah Oleson, **Amber Horvath**, and Margaret Burnett. 2016. GenderMag Experiences in the Field: The Whole, the Parts, and the Workload. In *Visual Languages and Human-Centric Computing (VL/HCC)*, Cambridge, UK, September 4-7, 2016. 10 pages.
- David Piorkowski, Scott D. Fleming, Christopher Scaffidi, Margaret Burnett, Irwin Kwan, Austin Z. Henley, Jamie Macbeth, Charles Hill, and **Amber Horvath**. 2015. To Fix or to Learn? How Production Bias Affects Developers' Information Foraging during Debugging. In *IEEE International Conference on Software Maintenance and Evolution (ICSME)*. Bremen, Germany, Sep. 29 - Oct. 1, 2015.
- Will Jernigan, **Amber Horvath**, Michael Lee, Margaret Burnett, Taylor Cuiilty, Sandeep Kuttal, Anicia Peters, Irwin Kwan, Faezeh Bahmani, and Amy Ko. 2015. A Principled Evaluation for a Principled Idea Garden. In *Visual Languages and Human-Centric Computing (VL/HCC)*, pages 235-243.
- Michael 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 Ko. 2014. Principles of a Debugging-First Puzzle Game for Computing Education. In *Visual Languages and Human-Centric Computing (VL/HCC)*, pages 57-64.
- Jill Cao, Irwin Kwan, Faezeh Bahmani, Margaret Burnett, Scott D. Fleming, Josh Jordahl, **Amber Horvath**, and Sherry Yang. 2013. End-User Programmers in Trouble: Can the Idea Garden help them to help themselves? In *Visual Languages and Human-Centric Computing (VL/HCC)*, pages 151-158.