

John Frens

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Expertise Programming Languages: Python, C++, Java, R, SQL
Research Keywords: Online Ecosystems, User Motivation, Feedback, Learning
Research Methods: Regression, Experiments, Machine Learning, Statistics, Interview, Survey

Experience **UX Researcher, Google Cloud Platform, 2018**

- Designed and conducted a survey and interview study to determine why and how developers (GCP users) leverage GitHub, StackOverflow, and other community-based resources, and how Google can help meet user needs in the community space
- Regularly involved stakeholders from UX, Engineering, Support, Developer Relations and Technical Writing teams
- Presented key findings and advocated for users to Google executives, employees, and stakeholders worldwide (12+ VPs at Google NYC, 20+ UXers at Google Seattle, and global remote presentation with 50+ connected rooms internationally)
- Collaborated with Google researchers and University of Washington faculty to author a research paper (in submission)

Software Engineer, Microsoft, 2013-2016

iOS Bridge for Windows, 2015-2016

- Developed libraries for native iOS app execution on Windows and built test apps using Objective-C and Swift
- Contributed ~27,000 lines of code to Microsoft WinObjC, reviewed code and collaborated with brilliant engineers

Android Bridge for Windows, 2014-2015

- Modified the Android Open Source Project for emulation of Android apps on Windows
- Mastered both Android/Java/Vim/Git and Windows/C++/Visual Studio/Svn while developing cross-OS app compatibility
- Debugged application lifecycle issues, developed end-to-end tests and reviewed code

Windows Mobile Graphics, Internship, 2013

- Designed and implemented a XAML control to allow Win8 developers to seamlessly visualize data
- Wrote ~20,000 lines of C++ in collaboration with two interns over 12 weeks
- Offered full-time role on OSGroup at end of internship

Interview Study of Feedback-Seeking in an Online Ecosystem, University of Washington, 2019

- Conducted 20+ semi-structured interviews to uncover how creative amateurs connect with each-other, build relationships, and appropriate technologies like discord and tumblr to exchange feedback
- Developed the study proposal and interview protocol, directed a qualitative analysis of the interview data
- Led a research group in the Human Centered Data Science Lab for two years

Social Network Analysis, University of Washington, 2017-2018

- Performed a clustering analysis of 20,000+ ego networks to model mentorship structure in an online community
- Computed k-means analysis and silhouette scores using Python library sklearn
- Curated and sampled data from an SQL database using Python libraries Pandas and SQLAlchemy
- Led a research group in the Human Centered Data Science lab for two years
- Collaborated with the Human Centered Data Science lab to author a research paper (in submission)

Mixed-Method Crowdfunder Feedback Experiment, University of Washington, 2016-2017

- Designed and conducted an experiment to test the effectiveness of rating systems on a Q&A website
- Designed and conducted a follow-up interview study to connect the results to user motivations and perceptions
- Scraped questions and answers using Python library BeautifulSoup, built a MySQL database to store data
- Built a server and website to host the experiment using Python, Django, nginx and gunicorn
- Authored, published, and presented a research paper at Learning@Scale 2018 in London

Large-Scale Regression Analysis, University of Washington, 2016-2017

- Curated a dataset of over 28 million chapters of fanfiction text and 176 million reviews written by 10 million users for a longitudinal analysis of the effect of reviews on writing to quantify the phenomenon of distributed mentoring
- Implemented the Measure of Textual Lexical Diversity (MTLD) in Python, a vocabulary usage metric, for 28 million texts
- Performed a mixed linear regression in R to measure the association between reviews, time and change in vocabulary
- Authored, published, and presented a research paper at Connected Learning Summit 2018 at MIT

Education	<p>University of Washington PhD in Human Centered Design & Engineering, ABD, expected 2021 MS in Human Centered Design & Engineering, 2018</p>
	<p>Carnegie Mellon University BS in Computer Science, 2014 Additional Major in Psychology and Minor in Human-Computer Interaction</p>
Papers	<p>Frens, J., Walker, E., Hsieh, G. (2018). Supporting Answerers with Feedback in Social Q&A. In Proceedings of the Fifth (2018) ACM Conference on Learning@Scale.</p> <p>Frens, J., Davis, R., Lee, J., Zhang, D., Aragon, C. (2018). Reviews Matter: How Distributed Mentoring Predicts Lexical Diversity on Fanfiction.net. In Connected Learning Summit.</p> <p>Frens, J., Klein, B., Chapman, C., Walker, E., Hsieh, G. Facilitating Problem-Solving for Software Developers: The Role of Developer Communities and How Companies Can Support Them. Under Submission.</p> <p>Frens, J., Davidson, M. Encouraging Fanfiction Authorship: How Reviews Predict Continued Participation on Fanfiction.net. Under Submission.</p> <p>Davis, R., Frens, J., Sharma, N., Aragon, C. Does Dunbar's Number Apply to Mentoring Communities? An Analysis of 177 Million Fanfiction Reviews. Under submission.</p> <p>Giroto, V., Burleson, W., Frens, J., Walker, E. Creativity Bottlenecks in Free and Open Source Software Communication Channels. Under submission.</p>
Talks	<p>Connected Learning Summit, Cambridge MA, 2018 "Reviews Matter: How Distributed Mentoring Predicts Lexical Diversity in Fanfiction"</p> <p>Learning@Scale Conference, London UK, 2018 "Supporting Answerers with Feedback in Social Q&A"</p> <p>InfoSocial Graduate Student Conference, Evanston IL, 2018 "Supporting Answerers with Feedback in Social Q&A"</p>
Teaching	<p>University of Washington Teaching Assistant, HCDE 419, Spring 2018</p> <ul style="list-style-type: none"> • Taught Human-Computer Interaction theory to HCDE undergrads. • Lectured 50 student, 2.5 hour class on informal online learning. <p>Teaching Assistant, HCDE 300, Winter 2018</p> <ul style="list-style-type: none"> • Taught fundamental Human Centered Design concepts to HCDE undergrads. • Ran a weekly recitation session with 20 students. <p>Teaching Assistant, HCDE 310, Fall 2017</p> <ul style="list-style-type: none"> • Taught Python to HCDE undergrads. • Imparted feedback and mentorship to 31 newbie software developers.
Service	<p>HCDE Peer Mentor, 2018-2019 CHI Conference Reviewer, 2018 CSCS Conference Reviewer, 2018 HCDE Master's Application Reviewer, 2018 CHI Conference Reviewer, 2017 Carnegie Mellon Emergency Medical Service, EMT, 2010-2014</p>