

Sneha R. Krishna Kumaran

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EDUCATION

University of Illinois at Urbana-Champaign, Urbana, IL **Expected May 2021**
PhD, Computer Science (Human Computer Interaction), GPA: 3.83
Proposed Thesis: “Fostering Feedback Seeking Behavior in Novices”
Advisor: Brian P. Bailey

Oregon State University, Corvallis, OR **June 2015**
BS, Computer Science, GPA: 3.98

SKILLS/COURSEWORK

Programming Languages/Frameworks: Python, R, Erlang, Haskell, JavaScript, React, Angular, PHP/Hack, C/C++, SQL, PyTorch, Android Studio, MongoDB, Node.js, AlphaPose

Quantitative/Qualitative Analysis Methods: Interviews, Iterative Coding, Participatory Design, Usability testing, Statistics, Survey design, Regression, Hierarchical statistical methods, Mixed-methods, Experimental design

Courses: Research methods in Human-Computer Interaction, Introduction to Human-Computer Interaction, User-Interface Design, Data-Driven Design, Cyber-Physical-Human Systems, Cognitive Science, Computer Vision, Natural Language Processing, Machine Learning

RESEARCH EXPERIENCE

Feedback Seeking Behavior: University of Illinois, Urbana, IL. **September 2017 – May 2019**
Graduate Research Assistant, ORCHID Research Group, Advisor: Brian P. Bailey

- Interviewed designers about why they sought feedback and perceived barriers to sharing their work
- Identified themes from semi-structured interviews using iterative coding
- Further quantified interviews through a quantitative survey

Methods for improved peer feedback in design education: University of Illinois, Urbana, IL. **August 2015 – May 2017**
Graduate Research Assistant, ORCHID Research Group, Advisor: Brian P. Bailey

- Provided empirical evidence about how mentorship and project history affect feedback quality and student engagement
- Conducted a longitudinal study over one semester in a 60 student class
- Created a web system for students to upload work and provide feedback to peers (HTML, PHP, JavaScript, MySQL)
- Data analysis included hierarchical statistical models, interviews, and surveys

Cross-domain and cross-culture collaboration: Bosch, Pittsburgh, PA **May 2017—August 2017**
Research Intern, Host: Lisa Yu

- Interviewed project managers and engineers of a large corporation about collaborations within a company
- Results helped the development of a method to match teams to one another based on the types of problems the teams were facing

Undergraduate Research Assistant: Oregon State University, Corvallis, OR **September 2013 – June 2015**
Undergraduate Research Assistant, Advisors: Rebecca Hutchinson, Thomas G. Dietterich

- Modeled a pollinator’s interaction with various plant species in a meadow
- Used a multinomial model and gradient descent to explain the number of visits a pollinator was observed making
- Found that assigning a preference to each plant improved the model

TECHNICAL EXPERIENCE

Facebook Inc., Menlo Park, CA. **May 2019—July 2019**
Machine Learning Infrastructure Engineering Intern at WhatsApp, Mentor: Vivek Srivastava

- Extended the existing spam report pipeline to handle a new message template (Erlang, Haskell)
- Created a UI to show details of the spam report and to mimic the layout of the new message template (React, Hack)
- Developed text-based deep net classifiers to detect violating content with ~80% accuracy (Haskell, FB Learner UI)
- Contributions were deployed in production code to the 1.5 billion active WhatsApp users

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Bosch, Pittsburgh, PA.

May 2017—August 2017

Research Intern, Host: Lisa Yu

- Developed a MEAN based social community for technicians to connect one another (Angular, MongoDB, Node.js)
- Gathered and displayed information from an external chatbot (developed by a teammate)
- Built a chatroom to for users to talk to one another using both text, audio, and video

Intel Corporation, Hillsboro, OR.

June 2015 – August 2015

Validation Intern, Hosts: Susmith Hiremath, Alexander Gutkin

- Developed a kernel driver for firmware security validation of Intel's Xeon Phi software stack
- Added two modules to test for unique CPU APIC IDs and correct register access types utilizing Python and C++ extensions
- Cross-compiled the driver to test on the older Xeon Phi Knight's Corner coprocessor

RELEVANT PROJECTS

Tutoring system for classical Indian dance, Personal Project (in progress)

- Goal: To build a web-based tutoring system to provide immediate feedback to dancers without the need of an instructor
- Utilized AlphaPose library for pose detection on dancers
- Currently surveying dance teachers to determine heuristics for providing basic corrections to novice dancers

WhatsApp user spam reporting accuracy, Personal Project (in progress)

- Goal: Determine what messages WhatsApp users consider to be spam and how UI interactions can increase user reporting accuracy
- Collecting samples of spam messages that users believed were spam
- Comparing the reported spam messages to the current policy
- Plan to experimentally compare the accuracy of users with two different spam reporting interfaces

PUBLICATIONS

Sneha R. Krishna Kumaran, Deana C. McDonagh, and Brian P. Bailey. 2017. Increasing Quality and Involvement in Online Peer Feedback Exchange. Proceedings of the ACM Human-Computer Interaction. 1, 1, Article 63. Acceptance Rate: 28%

Motahhare Eslami, **Sneha R. Krishna Kumaran**, Christian Sandvig, and Karrie Karahalios. 2018. Communicating Algorithmic Process in Online Behavioral Advertising. Proceedings of the ACM Conference on Human Factors in Computing Systems, 2018.

Sneha R. Krishna Kumaran. 2019. Fostering Feedback Seeking Behavior in Novice Designers. In Proceedings of the 2019 on Creativity and Cognition(C&C '19). ACM, New York, NY, USA, 653-658. DOI: <https://doi.org/10.1145/3325480.3326564>

Sneha R. Krishna Kumaran, Wenshuan (Wendy) Shi, Brian P. Bailey. 2019. Triggers and Deterrents of Feedback Seeking Behavior in Design. ACM CHI 2020. *Under Submission*.

TEACHING/SERVICE

PURE Research Mentor

January 2018-May 2018

Mentored undergraduate women in computer science to implement a research prototype.

Graduate Teaching Assistant

January 2018-May 2018

TA for the graduate level course in Human Computer Interaction. Duties included grading and directing students through their term projects.

Graduate Ambassador

2016-2018

Helped the computer science graduate admissions to organize a graduate women in computer science session during the graduate student recruitment weekend.

HONORS AND AWARDS

Teachers Ranked as Excellent, University of Illinois Urbana Champaign

2018

Grace Hopper Conference Travel Grant, University of Illinois Urbana Champaign

2016

Ducilla Shepard Smith Award, Oregon State University.

2013 – 2015

Rensselaer Polytechnic Institute Medalist.

2010